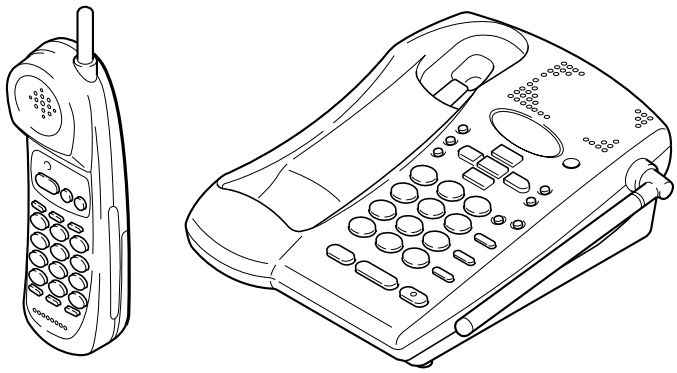
SPP-A946/A947

SERVICE MANUAL

Ver 1.0 2000. 02

US Model
SPP-A946
Canadian Model
SPP-A947



SPECIFICATIONS

General

Frequency band
902 - 928 MHz
Operating channel
40 channels
Dial signal
Tone, 10 PPS (pulse) selectable
Supplied accessories
AC power adaptor (AC-T129)
Telephone line cords (2)
Wall bracket/stand for base phone
Rechargeable battery pack (BP-T18)
Directories (2)

Handset

Power source
Rechargeable battery pack BP-T18
Battery charging time
Approx. 12 hours
Battery life
Standby: Approx. 7 days
Talk: Approx. 7 hours
Dimensions
Approx. 54 x 178 x 46 mm (w/h/d), antenna excluded
(approx. 2 1/4 x 7 1/8 x 1 13/16 inches)
Antenna: Approx. 35 mm
(approx. 1 7/16 inches)
Mass
Approx. 210 g
(approx. 7.4 oz), battery included

Base phone

Power source
DC 9V from AC power adaptor
AC-T129
Dimensions
Approx. 170 x 65 x 220 mm (w/h/d), antenna excluded
(approx. 6 3/4 x 2 5/8 x 8 3/4 inches)
Antenna: Approx. 150 mm
(approx. 6 inches)
Mass
Approx. 600 g
(approx. 1 lb 5 oz), wall bracket excluded

Answering machine

Maximum recording time
About 15 minutes, using incorporated IC
Greeting message
Up to 90 seconds per each
Incoming and Memo message
Up to 4 minutes per message

Design and specifications are subject to change without notice.

CORDLESS TELEPHONE WITH ANSERING SYSTEM

MICROFILM

SONY®

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

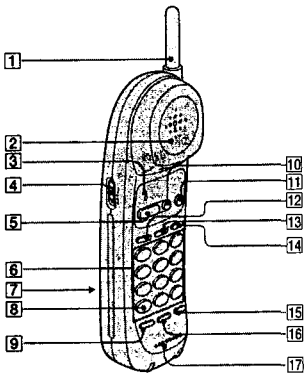
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

This section is extracted from instruction manual.

Identifying the parts

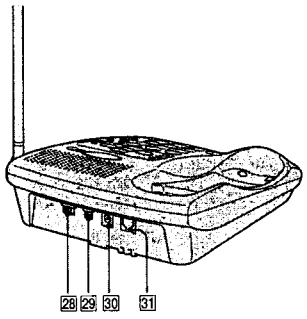
Refer to the pages indicated in parentheses for details.

Handset



1 **Antenna**
2 **Speaker**
3 **TALK/BATT LOW lamp** (p. 16, 20)
Lights up during a call, flashes when you store a phone number for speed dialing.
4 **VOL (volume) switch** (p. 16, 19)
Adjusts the handset volume.
5 **TALK button** (p. 16, 19)
Lets you make or receive a call.
6 **Dialing keys** (p. 16)
7 **Battery compartment** (p. 11)
8 **✻ TONE button** (p. 16, 19)
Allows you to switch temporarily to tone dialing.
9 **SPEED DIAL button** (p. 22)
Used to make a call with speed dialing.
10 **OFF button** (p. 16, 19)
Allows you to disconnect the call.
11 **FLASH button** (p. 16, 19)
12 **HOLD button** (p. 16, 19, 26)
Used to hold a call.
13 **INTERCOM button** (p. 27)
Used to make an intercom call.
14 **CHANNEL button** (p. 16, 19)
Used to select a better channel.
15 **REDIAL/PAUSE button** (p. 18, 22)
Redials the last number called, inserts a pause in the dialing sequence.
16 **PGM (Program) button** (p. 20)
Used to store numbers for speed dialing.
17 **Microphone**

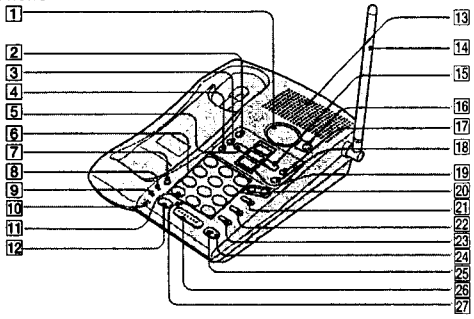
continued



17 **REC/MEMO button** (p. 33, 44)
Records a greeting or memo message.
18 **ERASE button** (p. 34, 40)
Erases the recorded greeting or messages.
19 **PLAY/STOP (MAILBOX 1,2,3) button** (p. 39)
Plays back the messages in each mailbox.
20 **VOL (Volume) +/– button** (p. 17, 19, 40)
Adjusts the speaker volume.
21 **REDIAL/PAUSE button** (p. 18 ,22)
Redials the last number called, inserts a pause in the dialing sequence.
22 **SPEED DIAL button** (p. 22)
Used to make a call with speed dialing.
23 **FLASH button** (p. 17, 19)
24 **INTERCOM button** (p. 28)
Used to make an intercom call.
25 **INTERCOM lamp** (p. 27)
Lights up during an intercom call.
26 **SPEAKERPHONE button** (p. 17, 19)
Used to make or receive a call with the base phone.
27 **SPEAKERPHONE lamp** (p. 17, 19)
Lights while making or receiving a call with the base phone.
28 **RINGER switch** (p. 24)
Adjusts the ringer volume.
29 **DIAL MODE switch** (p. 10)
Selects pulse or tone dialing.
30 **DC IN 9V jack** (p. 9, 47)
31 **LINE (telephone line) jack** (p. 9, 47)

Identifying the parts (continued)

Base Phone



1 **Message counter** (p. 37)
Indicate the number of new messages recorded. "A" appears in the announcement only mode. "FL" appears when there is no space to record messages.
2 **TIME/SET button** (p. 32, 45)
Press when setting the day and time, or to check the current time. Also used when setting the remote ID code (security code).
3 **SELECT button** (p. 32)
4 **MENU button** (p. 32)
5 **REPEAT/SLOW button** (p. 32, 39)
Press to repeat the current message or go back to the previous message. Keep the button pressed for slow playback of messages.
6 **Dialing keys** (p. 17)
7 **PGM (Program) button** (p. 21)
Used to store numbers for speed dialing.
8 **IN USE lamp** (p. 17, 19, 25)
Lights when one of the phones is in use.
9 **CHARGE lamp** (p. 11)
Lights while the battery is being charged.
10 **MIC (microphone)** (p. 33, 44)
11 **✻ TONE button** (p. 17, 19)
Allows you to switch temporarily to tone dialing.
12 **HOLD button** (p. 17, 19, 25)
Used to hold a call.
13 **Speaker**
14 **Antenna** (p. 9, 47)
15 **SKIP/QUICK button** (p. 32, 39)
Press to skip to the next message. Keep the button pressed for quick playback of messages.
16 **ANSWER ON/OFF button** (p. 37)
Turns the answering function on or off.

Step 2

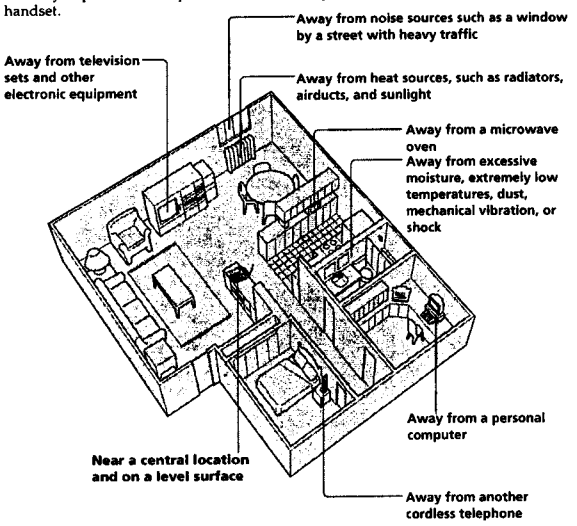
Setting up the base phone

Do the following steps:

- Choose the best location
- Connect the base phone
- Choose the dialing mode

Choose the best location

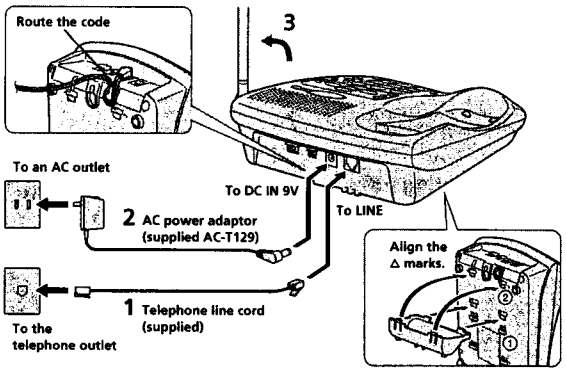
Where you place the base phone affects the reception quality of the handset.


Away from noise sources such as a window by a street with heavy traffic
Away from television sets and other electronic equipment
Away from heat sources, such as radiators, airducts, and sunlight
Away from a microwave oven
Away from excessive moisture, extremely low temperatures, dust, mechanical vibration, or shock
Away from a personal computer
Near a central location and on a level surface
Away from another cordless telephone

CAUTION:
- **Should you experience intermittent loss of audio during a conversation, try moving closer to the base or move base phone away from other noise sources.**
- **The cordless telephone operates at a frequency that may cause interference to nearby TVs and VCRs; the base phone should not be placed near or on the top of a TV or VCR; and, if interference is experienced, moving the cordless telephone farther away from the TV or VCR will often reduce or eliminate the interference.**

Connect the base phone

If you want to hang the base phone on the wall, see page 47.



If you want to use the wall bracket as the stand, attach it on the bottom of the base phone before step 1 as illustrated above.

1 Connect the telephone line cord to the LINE jack and to a telephone outlet.

2 Connect the AC power adaptor to the DC IN 9V jack and to an AC outlet.

3 Raise the antenna. Make sure it points towards the ceiling.

continued

Step 2: Setting up the base phone (continued)

Notes

- Use only the supplied AC-T129 AC power adaptor. Do not use any other AC power adaptor.
- Connect the AC power adaptor to a continuous power supply.
- Place the base phone close to the AC outlet so that you can unplug the AC power adaptor easily.

Polarity of the plug

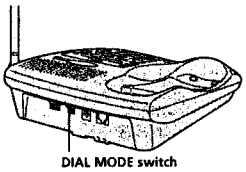
Tip

If your telephone outlet is not modular, contact your telephone service company for assistance.

Modular

Choose the dialing mode

For the telephone to work properly, select an appropriate dialing mode (tone or pulse).



Depending on your dialing system, set the DIAL MODE switch as follows:

If your dialing system is	Set the switch to
Tone	TONE
Pulse	PULSE

If you aren't sure of your dialing system

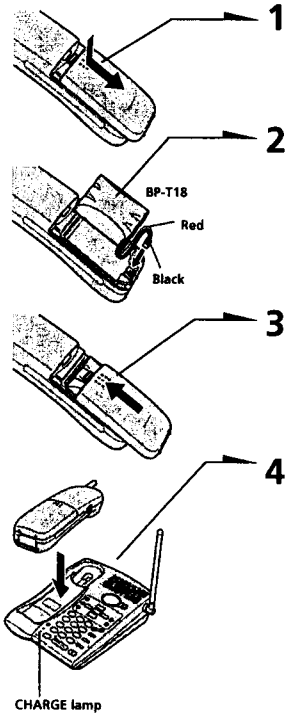
Make a trial call with the DIAL MODE switch set to TONE.

If the call connects, leave the switch as is; otherwise, set to PULSE.

Step 3

Preparing the battery pack

Charge the battery pack for more than **12 hours** before you start using your phone.



1 Slide open the battery compartment lid of the handset.

2 Connect the battery connector with correct polarity (black wire goes on left side and red wire goes on right).

3 Close the battery compartment lid.

4 Place the handset on the base phone.

The CHARGE lamp lights up when the handset is properly seated on the charge terminals of the base phone. Charge the battery pack for more than **12 hours** so that the battery is fully charged. The CHARGE lamp remains lit even after charging is completed.

continued

Step 3: Preparing the battery pack (continued)

Battery duration

A fully charged battery pack lasts for about:

- approx. 7 hours when you use the handset continuously.
- approx. 7 days when the handset is in standby mode.

Notes

- The battery pack will gradually discharge over a long period of time, even if not in use.
- If you leave the battery pack in the handset without charging it, the battery pack will be completely discharged.
  It may require several times of charging to recover its full capacity.

To obtain the best performance from the battery

Do not place the handset on the base phone after each call. The battery works best if the handset is returned to the base phone after two or three calls. However, do not leave the handset off the base phone for a long period of time as this will completely discharge the battery pack.

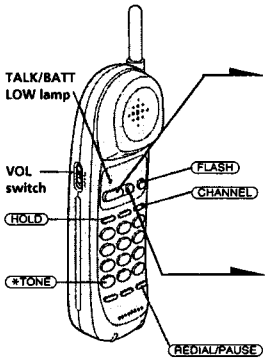
When to purchase a new battery pack

If the battery lasts only a few minutes even after **12 hours** of charging, the usable life of the battery has expired and needs replacement. Contact your local Sony authorized dealer or service center, and ask for a Sony **BP-T18** rechargeable battery pack.

Note

Battery life may vary depending on usage condition and ambient temperature.

Making calls



1 Pick up the handset from the base phone.

2 Press (TALK).

The TALK/BATT LOW lamp on the handset and the IN USE lamp on the base phone light up.

Then you'll hear a dial tone. If you hear error beeps, move closer to the base phone.

3 Dial the phone number.

4 When you're done talking, press (OFF) or replace the handset on the base phone.

The TALK/BATT LOW lamp on the handset and the IN USE lamp on the base phone go off.

Additional tasks

To	Do this
Put a call on hold	Press (HOLD). The TALK/BATT LOW lamp flashes slowly. Press (TALK) to resume the conversation.
Select a better channel	Press (CHANNEL).
Adjust the handset volume	Set the VOL switch to H (high), M (middle) or L (low).
Switch to tone dialing temporarily	Press (*TONE) while using the telephone after you're connected. The line remains in tone dialing until disconnected.
Switch to another call ("call waiting" service*)	Press (FLASH) to access the flash function. Press (FLASH) again to return to the first caller.

* You need to subscribe to the service from your telephone company.

Notes

- Before dialing, make sure you can hear the dial tone, otherwise you cannot dial correctly.
- When the TALK/BATT LOW lamp repeats a set of two flashes, the base phone is in use.
- When you set the handset volume to H (high), the volume will be raised considerably. Under normal circumstances, set the volume to M (middle).

If the handset battery becomes weak during a call

You hear a beep every three seconds and the TALK/BATT LOW lamp on the handset flashes.
The call will disconnect soon. Replace the handset on the base phone to charge.

For optimum performance, charge the battery for a full 12 hours.

Note that during the first 10 - 15 minutes of charging, the phone will be inactive, i.e., unable to make or receive a call.

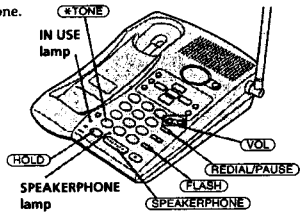
After this initial 10 - 15 minutes, you **may** be able to use the phone, but the battery duration will be **very short**; thus it is recommended that you **fully charge** the battery before the next usage.

Making calls through the speakerphone

Press (SPEAKERPHONE) on the base phone. The SPEAKERPHONE lamp and the IN USE lamp light up.
"- -" appears on the display.

Dial the phone number.

When you are done talking, press (SPEAKERPHONE) again.



Additional tasks

To	Do this
Put a call on hold	Press (HOLD). The LINE lamp flashes slowly. Press (SPEAKERPHONE) to resume the conversation.
Adjust the speaker volume	Press (VOL +) or (VOL -).
Switch to tone dialing temporarily	Press (*TONE) while using the telephone after you're connected. The line remains in tone dialing until disconnected.
Switch to another call ("call waiting" service*)	Press (FLASH) to access the flash function. Press (FLASH) again to return to he first caller.

* You need to subscribe to the service from your telephone company.

continued

Making calls (continued)

To obtain the best speakerphone performance

- You may not be able to hear the other party's voice in a noisy place. Therefore, use the speakerphone in a quiet room.
- Do not bring your hand or other object too close to the microphone or you will hear a shrill noise ("feedback").
- When the speaker volume is loud, or the telephone has been placed close to a wall, you may find that the volume drops suddenly. This is due to a circuit in the telephone designed to protect against feedback. In such cases, lower the speaker volume slightly.

Redialing

On the handset

1 Press (TALK).
The TALK/BATT LOW lamp lights up.

2 Press (REDIAL/PAUSE) to redial the number last dialed.

On the base phone

1 Press (SPEAKERPHONE).
The SPEAKERPHONE lamp lights up.
"- -" appears on the display.

2 Press (REDIAL/PAUSE) to redial the number last dialed.

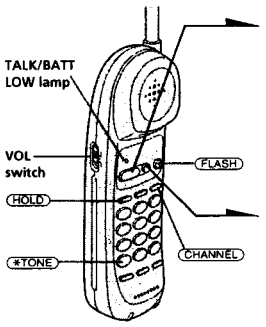
Note

If the number last dialed exceeds 32 digits, only the first 32 digits are dialed.

Tip

The number to be redialed is the last number dialed either on the handset or on the base phone.

Receiving calls



1 When you hear the phone ring;
- Press (TALK) (or any key except (OFF)).
  or
- Pick up the handset from the base phone when the handset is placed on the base phone.

The TALK/BATT LOW lamp on the handset and the IN USE lamp on the base phone light up.

2 When you're done talking, press (OFF) or replace the handset on the base phone.

The TALK/BATT LOW lamp on the handset and the IN USE lamp on the base phone go off.

Additional tasks

To	Do this
Put a call on hold	Press (HOLD). The TALK/BATT LOW lamp flashes slowly. Press (TALK) to resume the conversation.
Select a better channel	Press (CHANNEL).
Adjust the handset volume	Set the VOL switch to H (high), M (middle) or L (low).
Switch to tone dialing temporarily	Press (*TONE) while using the telephone after you're connected. The line remains in tone dialing until disconnected.
Switch to another call ("call waiting" service*)	Press (FLASH) to access the flash function. Press (FLASH) again to return to the first caller.
Turn on/off the ringer of the handset	See "Setting the ringer type" on page 23.

* You need to subscribe to the service from your telephone company.

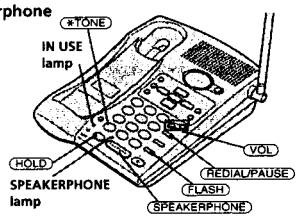
Receiving calls through the speakerphone

When the phone rings, press (SPEAKERPHONE) on the base phone. The SPEAKERPHONE lamp and the IN USE lamp light up.
"- -" appears on the display.

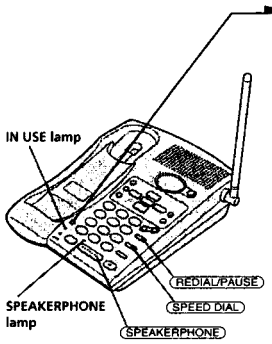
To adjust the speaker volume, press (VOL +) or (VOL −).

When you are done talking, press (SPEAKERPHONE) again.

To obtain the best speakerphone performance, see page 18.
To adjust the ringer volume, see page 24.



Storing phone numbers on the base phone



1 Press (PGM).

The SPEAKERPHONE lamp flashes quickly.

2 Press one of the dialing keys ((0) to (9)) for the phone number to be stored.

You'll hear a confirmation beep.

3 Enter the phone number you want to store.

You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

4 Press (PGM) again.

You'll hear another confirmation beep, and the number is stored.

Notes
- In step 3, if you don't enter the phone number, the previously stored number will be erased.
- Do not allow more than 20 seconds to elapse between each step of the procedure.
- You cannot store phone numbers on the base phone while the handset is being used. The IN USE lamp will light up to indicate this condition.

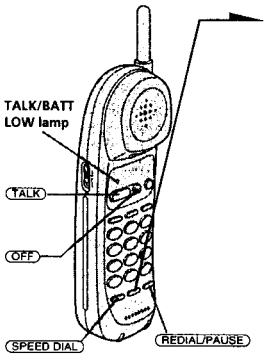
Tips
- If you enter a wrong number, press (PGM), then start from the beginning.
- Use the supplied directory to write down what you have stored to the speed dialing numbers.

continued

Speed dialing

You can dial with a touch of a few buttons by storing a phone number on a dialing key. You can store up to 10 different phone numbers separately on the handset and on the base phone.

Storing phone numbers on the handset



1 Press (PGM).

The TALK/BATT LOW lamp flashes.

2 Press one of the dialing keys ((0) to (9)) for the phone number to be stored.

You'll hear a confirmation beep.

3 Enter the phone number you want to store.

You can enter up to 16 digits, including a tone and a pause, each of which is counted as one digit.

4 Press (PGM) again.

You'll hear a confirmation beep, and the number is stored. The TALK/BATT LOW lamp goes off.

Notes
- In step 3, if you don't enter the phone number, the previously stored number will be erased.
- Do not allow more than 20 seconds to elapse between each step of the procedure.
- Before storing phone numbers, make sure the handset is not in use.

Tips
- If you enter a wrong number, press (OFF), then start from the beginning.
- Use the supplied directory to write down what you stored on the speed dialing numbers.

Speed dialing (continued)

To store the previous number dialed
Press (REDIAL/PAUSE) directly after step 2, then go to step 4.

To store a number to be dialed via Private Branch Exchange (PBX)
Before entering a phone number in step 3 on the previous page, do as follows:

1 Enter the outside line access digit (e.g. 9).
2 Press (REDIAL/PAUSE).

To change a stored number
To store a new number, follow the instructions described previously.

To clear a number from memory
1 Press (PGM).
2 Press the speed dialing key you want to clear.
3 Press (PGM) again.

Making calls with speed dialing on the handset

1 Press (TALK).

The TALK/BATT LOW lamp lights up.

2 Press (SPEED DIAL).

3 Enter the desired speed dialing number ((0) to (9)).

The phone number stored in the speed dialing number will be dialed.

Making calls with speed dialing on the base phone

1 Press (SPEAKERPHONE).

The SPEAKERPHONE lamp lights up.

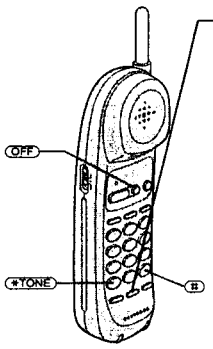
2 Press (SPEED DIAL).

3 Enter the desired speed dialing number ((0) to (9)).

The phone number stored in the speed dialing number will be dialed.

Setting the ringer type

You can select a ringer type from four types.



1 Press (PGM).

2 Press (#) or (*TONE).

3 Press a number button, (1) to (4), to select a ringer type.
You'll hear the corresponding ringer tone.

4 Press (OFF).

Turning off the ringer

1 Press (PGM).
2 Press (#) or (*TONE).
3 Press (5).
4 Press (OFF).
The ringer on the handset is turned off.

To turn the ringer on again
Follow the instructions described in "Setting the ringer type."

Note
Do not allow more than 20 seconds to elapse between each step of the procedure.

continued

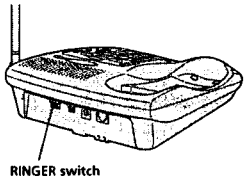
Checking the ringer type

1 Press (PGM).
2 Press (#) or (*TONE).
3 Press (0).
The currently selected ringer sounds.
4 Press (OFF).

Note
If you hear no sound (only key beep), the ringer on the handset has been turned off.

Adjusting the ringer volume level of the base phone

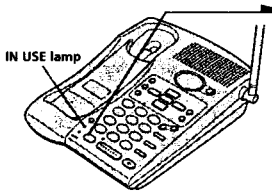
Set the RINGER switch on the base phone to HIGH or LOW. To turn the ringer off, set it to OFF.



Switching the phones during a call

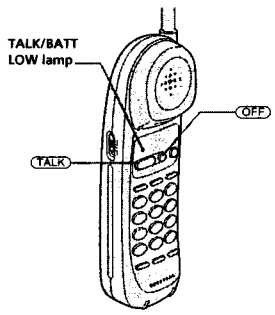
When you put a call on hold, you can return to the call on the other phone without disconnecting the call.

To switch from the base phone to the handset



1 Press (HOLD) on the base phone.
The IN USE lamp and the TALK/BATT LOW lamp on the handset will flash slowly.

2 Press (TALK) or pick up the handset from the base phone.
The IN USE lamp and the TALK/BATT LOW lamp on the handset will light up.

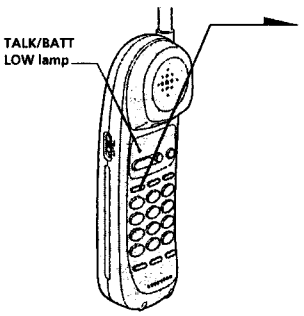


3 When you are done talking, press (OFF) or replace the handset to the base phone.

Notes
- If you pick up the handset while talking through the speakerphone on the base phone, the call will be switched to the handset.
- If you do not press (HOLD) in step 1, and press (TALK) in step 2, you can make a three-way conversation (see "Having a three-way conference" on page 31).
- When the call is put on hold on the base phone, if you pick up the handset, the call will be switched to the handset.

continued

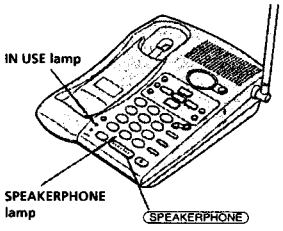
To switch from the handset to the base phone



1 Press (HOLD) on the handset.
The TALK/BATT LOW lamp and the IN USE lamp on the base phone will flash slowly.

2 Press (SPEAKERPHONE).
The SPEAKERPHONE lamp on the base phone will light up.
The TALK/BATT LOW lamp will flash.

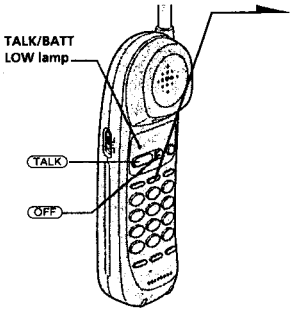
3 When you are done talking, press (SPEAKERPHONE) again.



Talking between the handset and the base phone (Intercom)

You can talk between the base phone and the handset. You can start the intercom from either phone.

To talk from the handset to the base phone



Press (INTERCOM) on the handset.

The TALK/BATT LOW lamp lights up, and INTERCOM lamp flashes. The base phone rings. You will be connected automatically after 3 seconds.

When a person at the base phone answers, you can talk.

The TALK/BATT LOW lamp on the handset and INTERCOM lamp will light up.

When you are done talking or if no one answers the phone

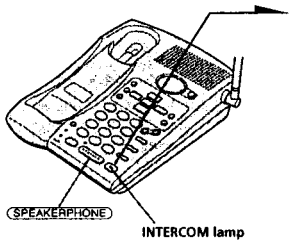
Press (OFF).

Tips

- You can receive an intercom call on the base phone even when the RINGER switch on the base phone is set to OFF. The base phone will ring at a low level.
- When a person at the base phone want to answer the intercom call within 3 seconds, press (INTERCOM) on the base phone. If a person at the base phone press (INTERCOM) after the intercom call is automatically connected, the intercom call will be disconnected.

continued

To talk from the base phone to the handset



Press (INTERCOM) on the base phone.

The handset rings. TALK/BATT LOW lamp flashes.

When the person at the handset presses (INTERCOM), you can talk. The call to the handset will stop by pressing (OFF) on the handset.

The TALK/BATT LOW lamp on the handset will light up. The INTERCOM lamp on the base phone will light up.

When you are done talking or if no one answers the phone

Press (INTERCOM) again.

Notes

- If there is an incoming call while on the intercom, only the base phone rings at a low level. To answer the call, press (TALK) on the handset or (SPEAKERPHONE) on the base phone. The intercom is canceled and you can talk to the outside caller.
- While conversing with an outside caller via the base phone or handset, you cannot make an intercom call. If you press (INTERCOM) on the handset, you will hear a busy tone. If you press (INTERCOM) on the base phone, it is invalid.

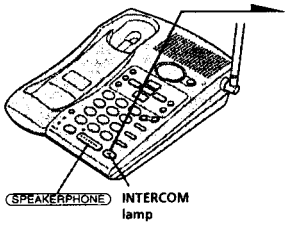
Tip

You can receive an intercom call on the handset even when the ringer is set to off. The handset will ring at a high level.

Transferring a call

You can transfer a call between the handset and base phone without disconnecting the call.

To transfer from the base phone to the handset



1 Press (INTERCOM).

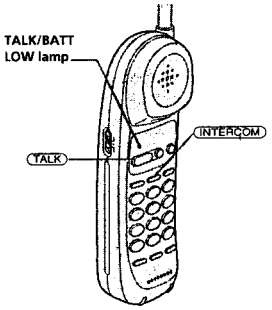
The call is put on hold, the handset rings.

The TALK/BATT LOW lamp on the handset flashes.

2 Press (INTERCOM) on the handset.

The TALK/BATT LOW lamp on the handset and INTERCOM lamp on the base phone light up.

You can talk between the base phone and the handset.



3 Press (TALK) on the handset to talk to the caller with the handset.

If no one answers the phone

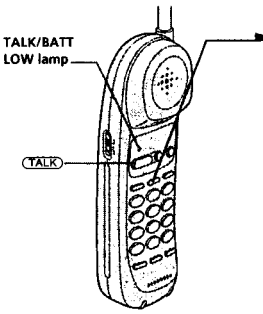
Press (SPEAKERPHONE) on the base phone.

Tip

You can receive an intercom call on the handset even when the ringer is set to off. The handset will ring at a high level.

continued

To transfer from the handset to the base phone



1 Press (INTERCOM).

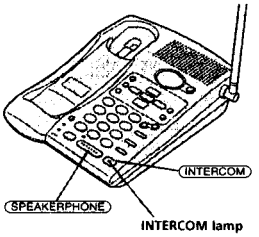
The call is put on hold, the base phone rings.

The INTERCOM lamp on the base phone flashes. You will be connected automatically after 3 seconds.

The TALK/BATT LOW lamp on the handset lights up.

When a person at the base phone answers, you can talk.

2 Press (SPEAKERPHONE) on the base phone to talk to the caller with the base phone.



If no one answers the phone

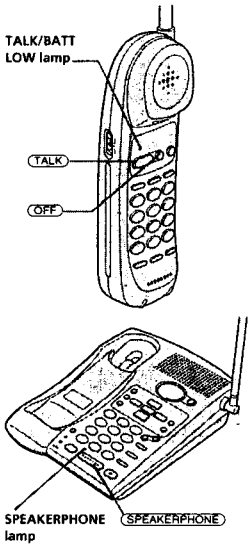
Press (TALK) on the handset.

Tips

- You can receive an intercom call on the base phone even when the RINGER switch on the base phone is set to OFF. The base phone will ring at a low level.
- When a person at the base phone want to answer the intercom call within 3 seconds, press (INTERCOM) on the base phone. If a person at the base phone press (INTERCOM) after the intercom call is automatically connected, the intercom call will be disconnected.

Having a three-way conference

The handset and the base phone operate like two extensions on the same line. Both phones can operate at the same time, so that you, the outside caller, and the person at the other phone can engage in a three-way conversation.



To join the phone conversation

Press TALK.

The TALK/BATT LOW lamp on the handset lights up.

If you are at the base phone, simply press SPEAKERPHONE.

The SPEAKERPHONE lamp on the base phone lights up.

When you are done talking

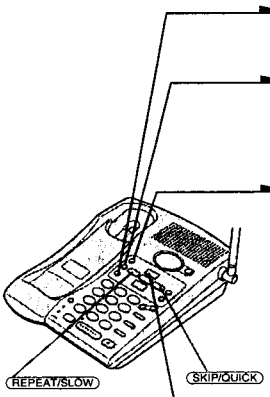
Press OFF on the handset (or press SPEAKERPHONE if you're at the base phone).

Tip

While talking through the speakerphone on the base phone, if you pick up the handset, the conversation will be continued between the handset and outside caller.

Setting up the answering machine

Setting the time and day of the week



1 Press MENU repeatedly until you hear "Set day and time". "- -" appears on the display.

2 Press SELECT, and you'll hear voice guidance.

3 Press REPEAT/SLOW or SKIP/QUICK repeatedly to select the day of the week.

4 Press TIME/SET.

The day is set and the hour is announced.

5 Press REPEAT/SLOW or SKIP/QUICK repeatedly to select the hour.

6 Press TIME/SET.

The hour is set and the minute is announced.

7 Press REPEAT/SLOW or SKIP/QUICK repeatedly to select the minute.

8 Press TIME/SET.

The day and time you just entered is announced and the clock restarts.

9 Press PLAY/STOP to exit the menu setup mode.

Notes

- The time and day are preset to Monday, 12:00 AM.
- "PF" flashes when the day and time is cleared or delayed due to a power interruption, or when you connect the base phone to the AC outlet for the first time.
- Do not allow more than 20 seconds (or 60 seconds when setting the minute) to elapse between each step of the procedure.
- If a power interruption occurs, the day and time will be erased.
- If the current day and time are not set, you will not hear a time stamp when you play back recorded messages. If you try to check the current time, you will hear five short error beeps.

Tip

All the mailbox buttons (MAILBOX 1, MAILBOX 2 and MAILBOX 3) work as the PLAY/STOP button; press any of the three in this case.

To hear the current time

Press TIME/SET. The current time setting is announced.

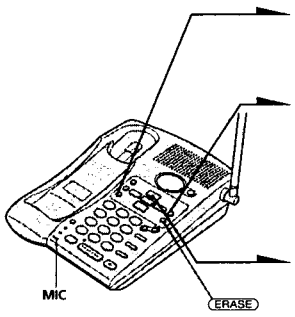
Recording the greeting

This answering machine has prerecorded greetings (see page 34). However, you can record your own greeting.

The greeting must be between 2 seconds and 90 seconds long.

You can record two greetings for the answering mode ("normal" and "announcement only" modes. See page 42). One greeting can be assigned in each mode, so you record a new greeting to match for each mode.

When you have already recorded two greetings, and you want to use a prerecorded greeting for one of the modes, erase your own greeting in the mode you want to change. Your own greeting in the mode you select is erased, and a prerecorded greeting is set automatically.



1 Press MENU repeatedly until "Set greeting message" is announced. "- -" appears on the display.

2 Press REC/MEMO. "Now recording" is announced and a long beep sounds.

3 Speak into the base phone microphone (MIC). The display starts counting. You can record up to 90 seconds.

4 To stop recording, press PLAY/STOP. Your greeting replays automatically.

continued

Setting up the answering machine (continued)

Notes

- If you do not record your own greeting, the prerecorded greeting will be assigned automatically (see page 35).
- If your greeting is less than two seconds, the greeting is not recorded. The prerecorded greeting will be assigned automatically.
- If a call comes in during recording, recording stops automatically.
- If 90 seconds have passed or memory becomes full in step 3, recording stops automatically.
- "Memory full" is announced if no recording space is available when you press REC/MEMO. Erase unnecessary messages (see page 40).

Tips

- To record the greeting from a touch-tone phone, see "Operating from an outside phone" on page 46.
- Even if a power interruption occurs, your own greeting is not erased.

To check the greeting

Press MENU repeatedly until "Set greeting message" is announced. "- -" appears on the display. Then press PLAY/STOP to play back the greeting.

To change the greeting

Record a new greeting by following the instructions on the previous page. The new greeting replaces the old one.

To erase the greeting

1 Press MENU repeatedly until "Set greeting message" is announced. "- -" appears on the display.

2 Press ERASE, and "Greeting message has been erased" is announced.

To go back to the factory prerecorded greeting

Press ERASE while playing back the greeting.

This will bring back the original greeting, but your own greeting is erased.

Notes

- You can also erase the greeting during playback.
- If you have erased your own greeting, the prerecorded greeting will be assigned automatically.

Prerecorded greetings

Normal mode: "Hello, I'm unable to answer your call right now. Please leave your name, number and message after the tone."

Announcement only mode: "Hello, I'm unable to answer your call right now. Please call again. Thank you."

Setting the number of rings

You can select the number of times the phone rings before it answers to take a message.
There are three modes: 2, 5, and Toll Saver.

1 Press (MENU) repeatedly until you hear "Set number of ring".
"- -" appears on the display.

2 Press (SELECT).
The present selected number of ring is announced.

3 Press (REPEAT/SLOW) or (SKIP/QUICK) repeatedly to select a ring duration (2, 5, or Toll Saver).
To answer after 2 rings, select "2".
To answer after 5 rings, select "5".
Select "Toll Saver" to answer after 2 rings when there are new messages, and 5 rings when there are no new messages.

4 Press (TIME/SET).
The ring duration setting is announced.

5 Press (PLAY/STOP) to exit the menu setup mode.

Notes

- When the number of rings is set to "Toll Saver", the phone answers after 2 rings if new messages are recorded. If no new message are recorded, it answers after 5 rings. When you hear 3 rings, you will know that there are no new messages. You can save the toll for the call when you pick up messages from an outside phone.
- The number of rings is preset to Toll Saver.

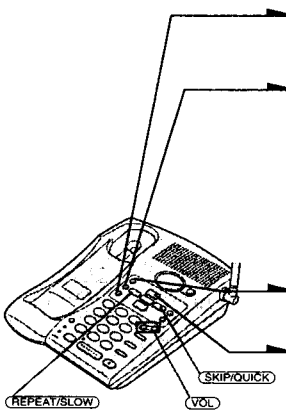
continued

Setting the audible message alert

You can set the answering machine to record incoming messages (normal mode), or just make an announcement without recording messages (announcement only mode). To set an announcement only mode, see page 42.

In the normal mode, you have the option of having a beep to tell you if you have received any new incoming messages.

When you use this option, set the message alert to on. If you want the caller to leave message but not to use this option, set the message alert to off.



1 Press (MENU) repeatedly until you hear "Set message alert".
"- -" appears on the display.

2 Press (SELECT).
The present selected setting is announced. The display shows "On" or "OF" (off).

3 Press (REPEAT/SLOW) or (SKIP/QUICK) to set the audible message alert on or off. The display shows "On" or "OF" (off).

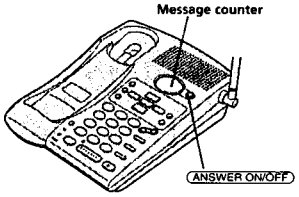
4 Press (TIME/SET).
The setting is announced.

5 Press (PLAY/STOP) to exit the menu setup mode.

Notes

- When the audible message alert is turned on, you will hear a beep every 5 seconds if there are any new messages.
- To stop the beep, press any button related to the answering machine function or (VOL +) / (VOL -).
- The audible message alert is preset to "On".

Turning on the answering function



Press (ANSWER ON/OFF) on the base phone.
The ANSWER ON/OFF button lights up. "Answering function is on" is announced.

Mailbox usage

This phone offers you three voice mailboxes, providing a convenient way to share the mailbox feature with other members of your household or business.

When a caller calls

The caller can choose one of the two ways to leave a message:

- If calling from a touch-tone phone, the caller select a mailbox by pressing (*)(1) (MAILBOX 1), (*)(2) (MAILBOX 2) or (*)(3) (MAILBOX 3) while the caller hears the greeting. The greeting stops and a beep will sound, then the caller can start recording a message.
- Wait until the greeting finishes, then start recording a message. When the caller does not select a mailbox, the message is automatically recorded to MAILBOX 1.

Notes

- If four minutes have passed while recording the incoming message, the line will be disconnected automatically.
- If the message is shorter than two seconds, it will not be recorded.

Tip

Even if a power interruption occurs, the incoming messages are not erased.

To turn off the answering function

Press (ANSWER ON/OFF) on the base phone.
The ANSWER ON/OFF button goes off. "Answering function is off" is announced.

Note

The answering function is preset to on.

Tips

- The answering machine will automatically answer a call after 10 rings, even if the answering function is off and announces greeting message to prompt the caller to turn on the answering function.
- You can also turn on or off the answering function from an outside phone, see "Operating from an outside phone" on page 46.

continued

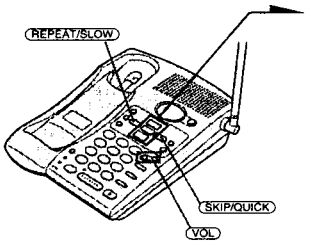
When the memory is full

The total recording time of this answering machine is approximately 15 minutes (including the greeting, messages, and memo).
When the remaining recording time becomes less than 30 seconds, "FL" flashes on the display and the answering machine goes into the memory full status.
To avoid this erase unnecessary messages (see page 40). You can also erase the messages from an outside phone (see page 46).

Playing back messages

If there are new messages, the display flashes the number of new messages.

You will hear beeps if the audible message alert setting is on (see page 36).



Press a mailbox button ((MAILBOX 1), (MAILBOX 2) or (MAILBOX 3)) to play back new messages in the selected mailbox.

Additional tasks when playing back messages

To	Do this
Adjust the speaker volume	Press (VOL +) or (VOL −).
Stop playback	Press a mailbox button ((MAILBOX 1), (MAILBOX 2) or (MAILBOX 3)).
Repeat the current message	Press (REPEAT/SLOW) during play back.
Skip the current message	Press (SKIP/QUICK).
Go back to the previous message	Press (REPEAT/SLOW) within the first 2.5 seconds of the current message playback.
Play back slowly	Press and hold (REPEAT/SLOW) during play back. Release (REPEAT/SLOW) to return to normal.
Play back quickly	Press and hold (SKIP/QUICK) during play back. Release (SKIP/QUICK) to return to normal.

Notes

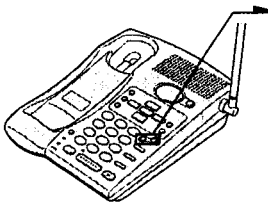
- If a call comes in, the play back will stop.
- A time and day stamp is announced after each message if you set the time and day (see page 32).
- The old messages will not be played back unless all new messages are played back.

Tips

- If there are no new messages, all the previously reviewed messages are played back.
- The messages are saved even after a power failure.

continued

Adjusting the speaker volume



To adjust the speaker volume, press (VOL +) or (VOL −).

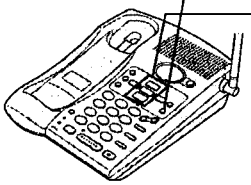
Note

You cannot adjust the speaker volume while the phone is ringing.

Tip

There are 10 steps for the volume level (1 to 10). The volume level is preset to 6.

Erasing messages



1 Press and hold (ERASE) for more than one second. "Please select mailbox" is announced.

2 Press a button for the mailbox you want to erase ((MAILBOX 1), (MAILBOX 2) or (MAILBOX 3)). All "old" messages in the selected mailbox are erased. "All of your messages has been erased" is announced.

To erase individual messages

Press (ERASE) while playing back the message that you want to erase.

"Message has been erased" is announced.

Notes

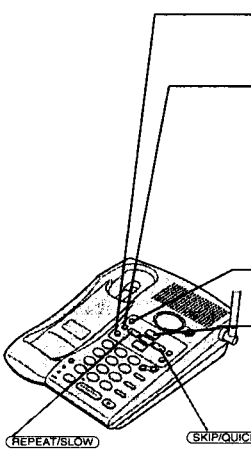
- The display shows the total number of "new" (i.e. unreviewed) messages. Therefore, the display is reset to "0" when you have played back all new messages, whether they have been erased or not. Be sure to erase unnecessary messages before the memory becomes full.
- When the number of new messages exceeds 59, "FL" flashes on the display window.
- If you try to erase all messages in a mailbox with any new messages remaining. You hear five short error beeps and you cannot erase the messages.

Tip

You can also listen to the messages or erase the messages from a touch-tone phone, see "Operating from an outside phone" on page 46.

Selecting the Announcement Only Mode

You can set the answering machine to play the greeting without recording incoming messages (announcement only mode). You might want to select this mode when, for example, you expect to be away for a while and you cannot pick up messages.



1 Press (MENU) repeatedly until you hear "Set announce only". "- -" appears on the display.

2 Press (SELECT). The present selected setting is announced. The display shows "On" or "OF" (off).

3 Press (REPEAT/SLOW) or (SKIP/QUICK) to set the announcement only mode on or off.

4 Press (TIME/SET). The setting is announced.

5 Press (PLAY/STOP) to exit the menu setup mode. The display shows "A" when the answering machine is set to the announcement only mode.

Notes

- To activate announcement only mode, you have to turn on the answering machine.
- The announcement only mode is preset to off.

Screening calls

You can screen calls by leaving the answering machine on while you are at home. When a call is answered, you can hear the message being recorded through the base phone. You can decide either to continue recording or to answer the call.
The message will be recorded, but to hear it you will need to play back the message (see page 39).

To answer the call

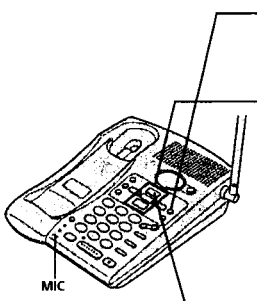
Press (TALK) on the handset.

Notes

- Press (VOL +) or (VOL −) to adjust the speaker volume. If the speaker volume is set at its minimum level, you will not be able to hear incoming calls.
- The answering machine will stop automatically when the handset or a parallel phone is picked up. If the answering machine does not stop, press either (PLAY/STOP) on the base phone.
  The recording will remain as a new message.

Recording a memo message

You can leave messages for other users of the phone.



1 Press (REC/MEMO).
"Please select mailbox" is announced.

2 Press a mailbox button ((MAILBOX 1), (MAILBOX 2) or (MAILBOX 3)) to which you want to leave the message.
"Now recording" is announced and counting starts.

3 Speak into the base phone microphone (MIC) to record your message.
A memo can be up to four minutes in length.

4 Press (PLAY/STOP) to stop recording.
The message number on the display increases by one.

Notes

- If the memory becomes full, the answering machine will stop recording.
- "Memory full" is announced if no recording space is available when you press (REC/MEMO).
- If your message is shorter than two seconds, the recording will be canceled.
- The display flashes "99" if you record a memo for more than 99 seconds.
- If a call comes in during recording, the recording will be stopped.

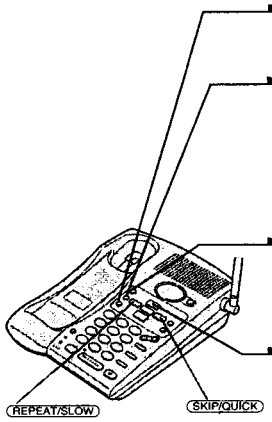
Tips

- If four minutes have passed in step 3, recording stops automatically, and the recorded memo is counted as a new message.
- Even if a power interruption occurs, the memos are not erased.

Operating from an outside phone

Setting the remote ID code (security code)

To operate the answering machine from a touch-tone phone while you are away from home, you need to set the remote ID code (security code).



1 Press (MENU) repeatedly until you hear "Set security code".

2 Press (SELECT).

3 Press (REPEAT/SLOW) or (SKIP/QUICK) to change the remote ID code (security code) setting.

4 Press (TIME/SET) to confirm your choice.
The new remote ID code (security code) is announced.

5 Press (PLAY/STOP) to exit the menu setup mode.

To change the remote ID code (Security code)

Enter a new remote ID code (Security code). The new code will replace the old one.

Tip

Even if a power interruption occurs, the remote ID code is erased.

continued

Picking up new messages

1 Call your telephone number from a touch-tone phone.

2 When you hear the greeting, press (#) and enter your remote ID code (security code).
You will hear a confirmation beep.
The number of new messages will be announced.

3 Press the keys in the "Table of control codes" below for the desired operation command.

4 When you finish, disconnect the line.

Notes

- Do not let two seconds elapse between each digit of the remote ID code (security code) and the control code.
- If you did not turn on the answering machine, your phone answers automatically after 10 rings.
- If you enter wrong remote ID code (security code) three times, the line will disconnect.
- If no keys are pressed within 20 seconds, the line will disconnect.

Tip

Cut off the Remote Control Card and carry it with you to see how to operate from an outside phone.

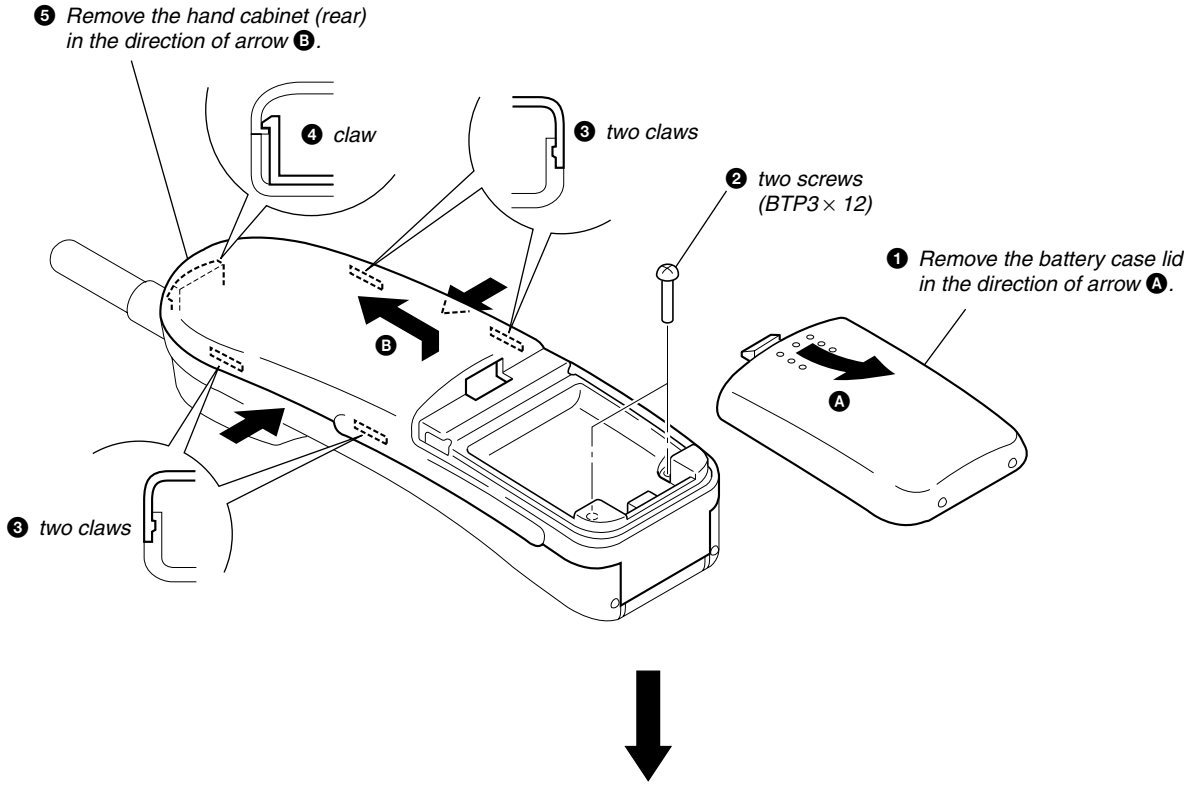
Table of control codes

To	Key	Notes
Play back messages in MAILBOX1	(#)(1)	Plays back from the first new message.
Play back messages in MAILBOX2	(#)(2)	Plays back from the first new message.
Play back messages in MAILBOX3	(#)(3)	Plays back from the first new message.
Repeat backward	(#)(4)	Press during play back to repeat a message.
Skip forward	(#)(6)	Press during play back to skip forward.
Erase individual message	(#)(9)	Press during play back.
Erase all the messages in MAILBOX1	(#)(9)(#)(1)	
Erase all the messages in MAILBOX2	(#)(9)(#)(2)	
Erase all the messages in MAILBOX3	(#)(9)(#)(3)	
Record greeting	(*)(7)	"Now recording" is announced.
Turn answering machine on	(*)(0)	Turns the system on. "Answering function is on" is announced.
Turn answering machine off	(#)(0)	Turns the system off. "Answering function is off" is announced.
Stop operation	(*)(*)	Stops every function.

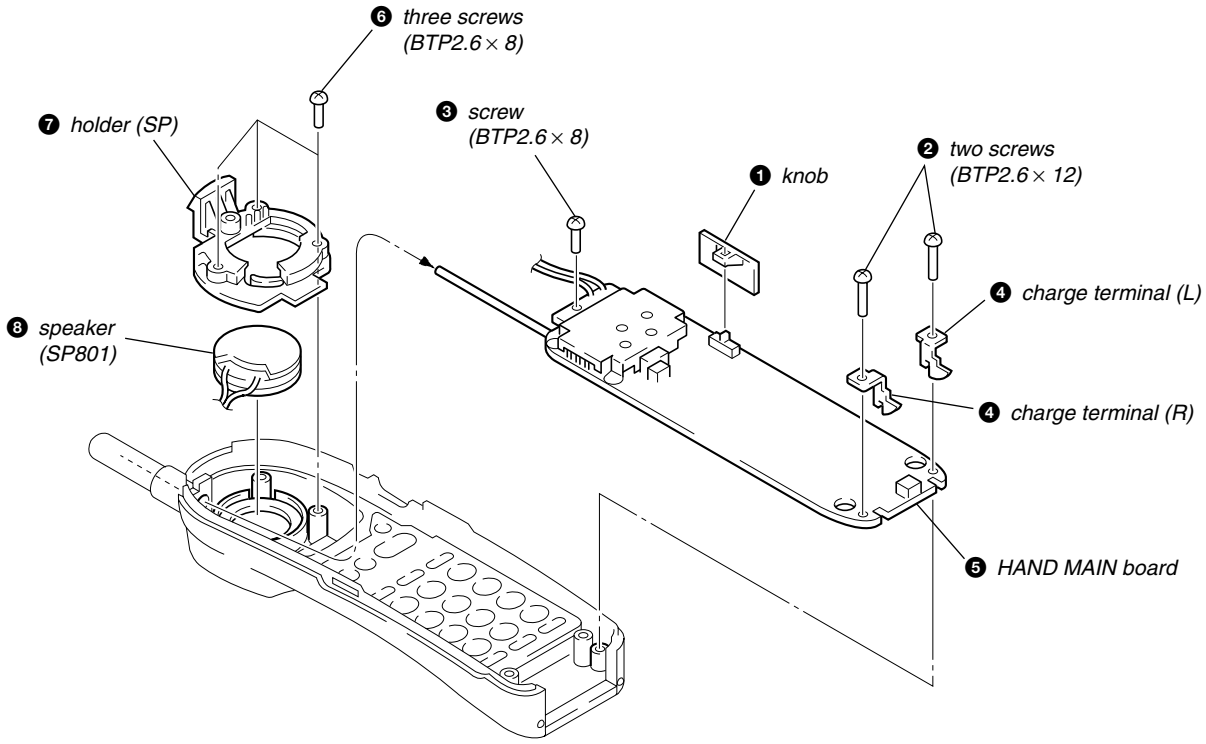
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

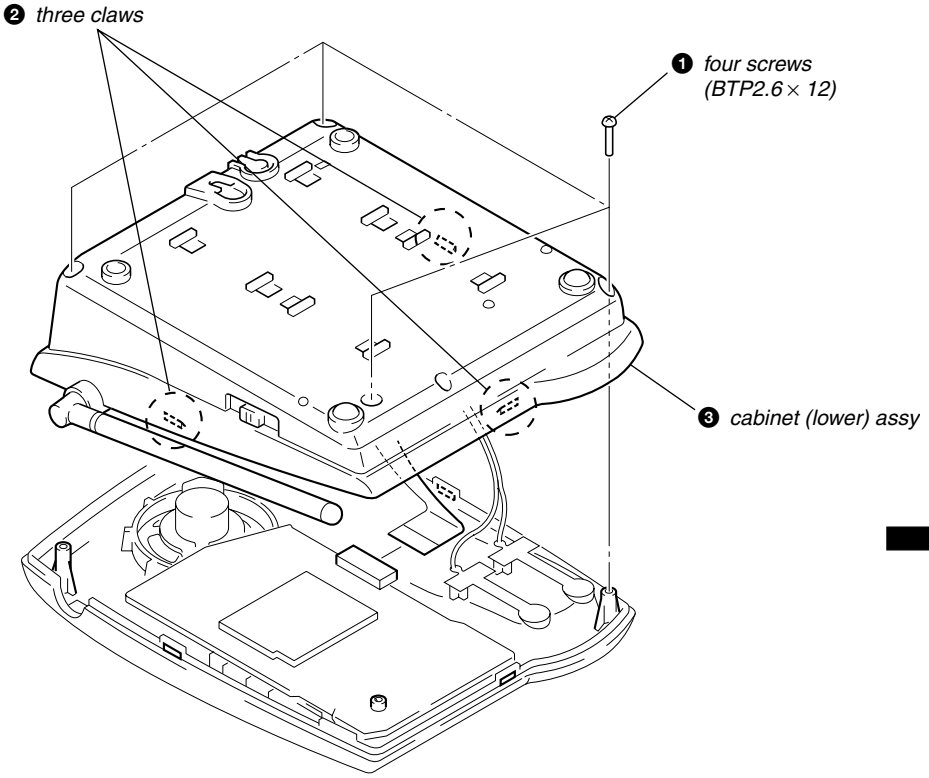
HAND CABINET (REAR)


❺ Remove the hand cabinet (rear) in the direction of arrow Ⓑ.
❹ claw
❸ two claws
❷ two screws (BTP3× 12)
❶ Remove the battery case lid in the direction of arrow Ⓐ.
Ⓑ
Ⓐ
❸ two claws

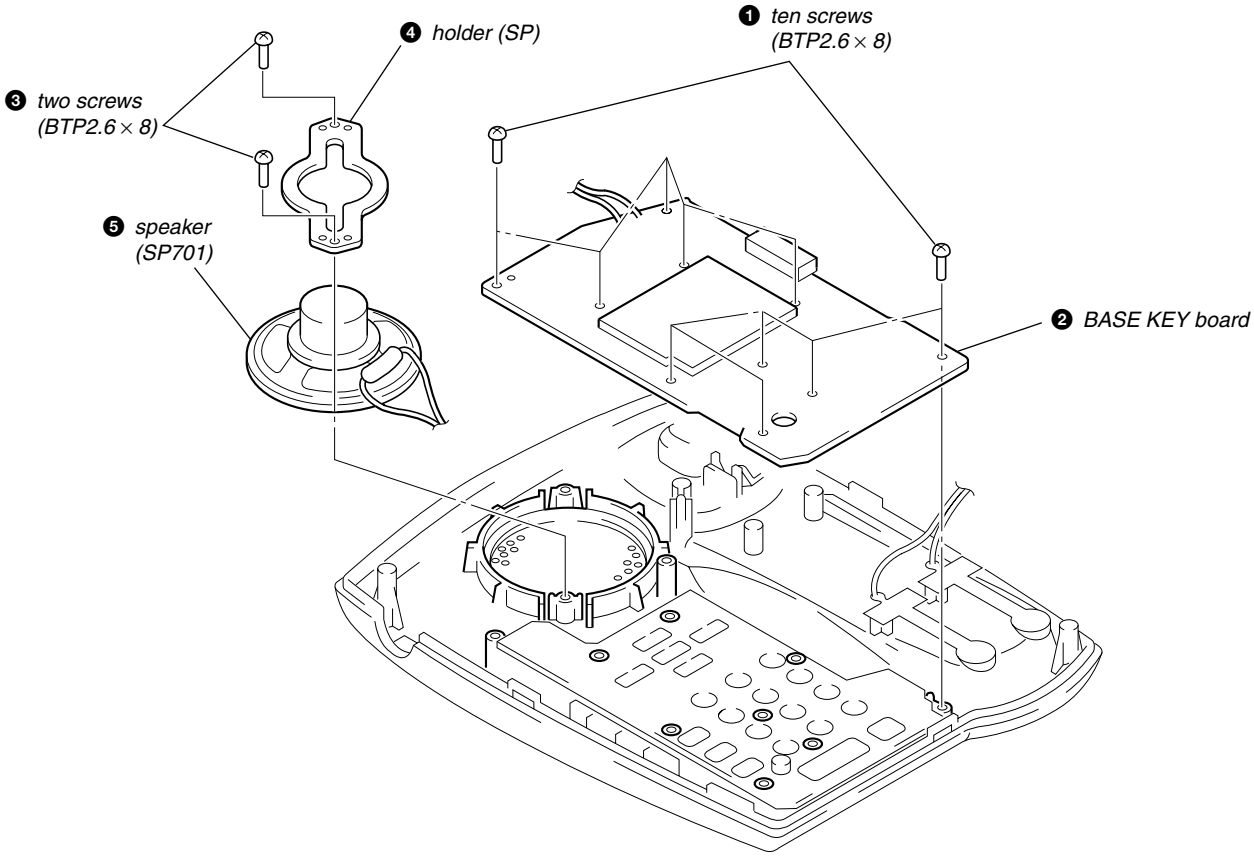
HAND MAIN BOARD, SPAEKER (SP801)



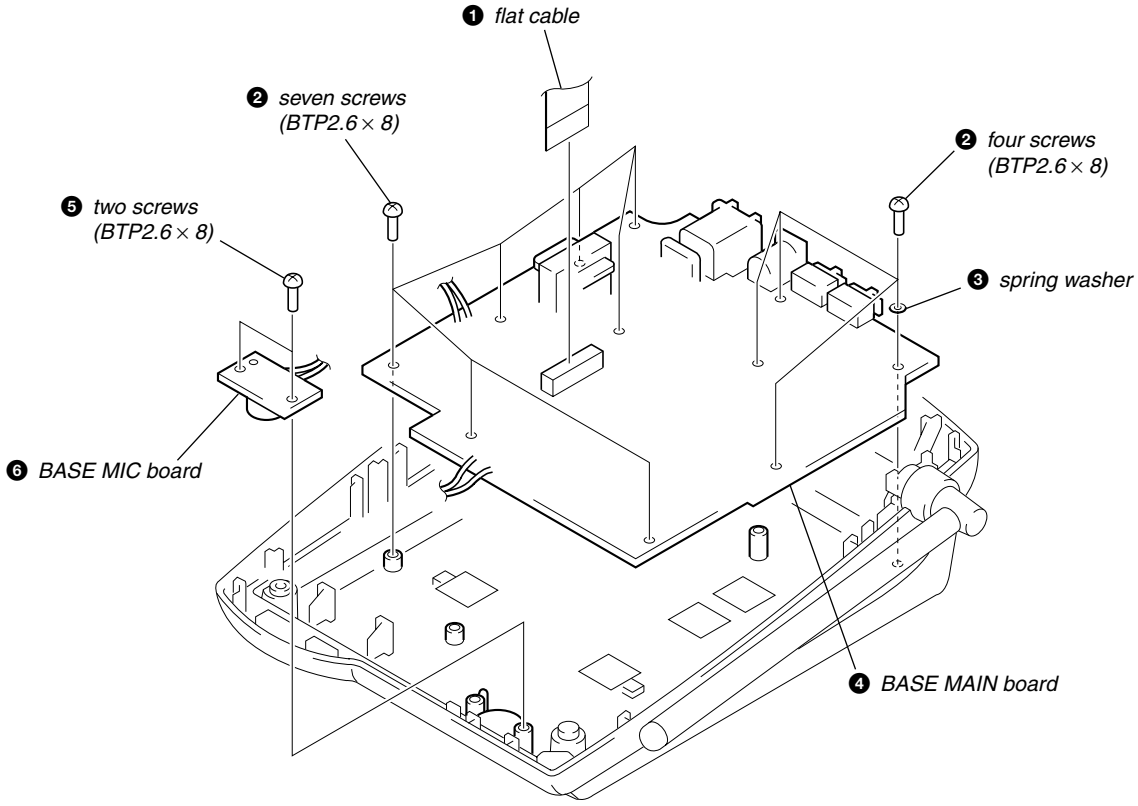
CABINET (LOWER) ASSY



BASE KEY BOARD, SPEAKER (SP701)



BASE MAIN BOARD


❶ flat cable
❷ seven screws (BTP2.6 × 8)
❷ four screws (BTP2.6 × 8)
❺ two screws (BTP2.6 × 8)
❸ spring washer
❻ BASE MIC board
❹ BASE MAIN board

SECTION 3
TEST MODE

BASE UNIT

– MAIN Section –

[Setting the Test Mode]

1. Power on with pressing the INTERCOM key for five seconds.
2. When the test mode is set, it beeps confirm tone and CHARGE LED turns on for 50 msec.

Note: If setting the test mode with the status that TONE position is selected at DIAL MODE switch, the unit cold stars next time when the power is turned on.

[Releasing the Test Mode]

To release the test mode, perform as follows:

- Turn the power off (disconnect the AC adapter plug).
- Set the handset to charge on the base unit (except Test Mode 9).
- Bell in.

[Changing the Test Mode Step]

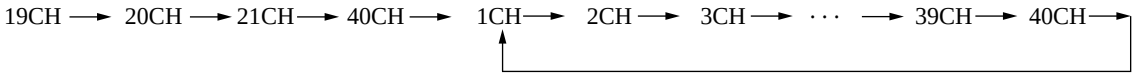
1. Set the DIAL MODE switch to the PULSE position.
2. Press the INTERCOM key.
3. A step is changed each time the key is pressed, and CHARGE LED turns on for 50 ms and it beeps confirm tone.

[Changing the Channel]

1. Set the DIAL MODE switch to the TONE position.
2. Press the INTERCOM key.
3. A channel is changed each time the key is pressed, and CHARGE LED turns on for 50 ms and it beeps confirm tone.

Note: Channel will be back to initial channel (19CH), when the test mode step is changed.

- Channel Rotation



[Test Mode Execution]

Press the [INTERCOM] key to execute any of the following tests:

Step	Test Mode Name	TX CONT (IC8 pin ㊲)	$\overline{\text{TX MUTE}}$ (IC8 pin ⑯)	$\overline{\text{RX MUTE}}$ (IC8 pin ⑮)	$\overline{\text{MIC MUTE}}$ (IC8 pin ⑰)	SP MUTE (IC8 pin ㉕)	RL CONT (IC8 pin ㉖)	LINE MUTE (IC8 pin ㊽)	Remarks
1	VCO/TX FREQ. ADJ	L	L	L	L	IN	L	H	
2	TX MOD CHECK	L	H	L	L	IN	H	L	
3	TX DATA	L	L	L	L	IN	L	H	*1
4	RX SENS	H	L	H	L	IN	H	L	
5	SQ SENS	L	L	*A	L	IN	H	L	
6	BELL CHECK	H	L	L	L	L/IN	H	H	*2
7	DTMF DUAL TONE	H	L	L	L	IN	H	L	*3
8	DATA IN CHECK	L	L	L	L	IN	L	L	*4
9	CHARGE CHECK	H	L	L	L	IN	L	H	*5
10	DUPLEX	L	H	H	L	IN	H	L	
11	INTERCOM	L	H	H	H	L	L	H	
12	DTMF SINGLE TONE	H	L	L	L	IN	H	L	*6

*Initial Channel of each step: 19CH

*A. SQ on: H (CHARGE LED turns on)
SQ off: L (CHARGE LED turns off)

*1. Test Mode 3: Continue output TX data as " 0000·····".

*2. Test Mode 6: Output level of the bell can be changed by the [RINGER] switch (S2).

*3. Test Mode 7: When the base unit status changes to charge on (more than 500 msec.) from charge off conditions, DTMF will be changed.
$1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 5 \rightarrow 6 \rightarrow 7 \rightarrow 8 \rightarrow 9 \rightarrow 0 \rightarrow * \rightarrow \# \rightarrow 1 \rightarrow \cdots\cdots$.

*4. Test Mode 8: When locked receiving data is " 0000·····", CHARGE LED turns on.

*5. Test Mode 9: When CHGIN (IC8 pin ㉔) is " L" (charge on), CHARGE LED turns on.

*6. Test Mode 12: When the base unit status changes to charge on (more than 500 msec.) from charge off conditions, DTMF will be changed.
ROW 0 → ROW 1 → ROW 2 → ROW 3 → COL0 → COL1 → COL2 → ROW0 → ····· .
* DTMF frequency
ROW 0: 696.95 Hz COL0: 1209.31 Hz
ROW 1: 770.13 Hz COL1: 1335.65 Hz
ROW 2: 852.27 Hz COL2: 1476.71 Hz
ROW 3: 940.99 Hz

– DSP Section –

[Setting the DSP Test Mode]

1. Power on with pressing the [ANSWER ON/OFF] key for 3 seconds.
2. When the DSP test mode (step 1) is set, it beeps confirm tone.

[Releasing the DSP Test Mode]

To release the test mode, perform as follows:

- Turn the power off (disconnect the AC adapter plug).
- Bell in. (except step 6)

[Changing the DSP Test Mode Step]

1. Press the [QUIC, SKIP] key.
2. It switches over next step, and indicates step status on the 7 segments LED (D217).

Note: Volume level can be changed by the [+] or [–] key in the all steps. But then the step is changed, volume level will be maximum (level 10).

1. STEP 1

1-1. Status Indication of the Dial Mode

It indicates status of the [DIAL MODE] switch (S1) on the 7 segments LED (D217) as follows.

TONE: "7 1"
PULSE: "P 1"

1-2. Key Check

Every time each key is pressed, the code corresponded to each key is indicated on the 7 segments LED for a second as follows

Key	Code	Key	Code	Key	Code
SPEAKERPHONE	01	PGM	0C	6	26
INTERCOM	02	VOL +	0d	7	27
HOLD	03	VOL –	0E	8	28
MENU	04	MAIL BOX 1	11	9	29
SELECT	05	MAIL BOX 2	12	0	2A
TIME SET	06	MAIL BOX 3	13	*	2b
ERASE	07	1	21	#	2C
REC/MEMO	08	2	22	REDIAL/PAUSE	2d
SLOW, REPEAT	09	3	23	FLASH	2E
QUICK, SKIP	change the step	4	24	SPEED DIAL	2F
ANSWER ON/OFF	DSP version	5	25		

2. STEP 2

When set to this step, it indicates " 2" on the 7 segments LED (D217).
In this step, speakerphone is receiving mode every time.

3. STEP 3

When set to this step, it indicates " 3" on the 7 segments LED (D217).
In this step, it will be line monitor mode every time.
When it detects DTMF signal from the line input (LINE jack: J1), beeps key-touch-tone and indicates the code on the 7 segments LED (D217) for a second as follows.

DTMF	Code
1	_1
2	_2
3	_3
4	_4
5	_5
6	_6
7	_7
8	_8
9	_9
0	_A
*	_b
#	_C

4. STEP 4

When set to this step, it indicates " 4" on the 7 segments LED (D217), and keep beeps DTMF tone.
Each time the [SLOW, REPEAT] key is pressed, DTMF tone is change.

5. STEP 5

When set to this step, the 7 segments LED (D217) goes off.
In this step, it will be recording mode from line input (LINE jack: J1) every time.
It indicates depending on input condition on the 7 segments LED (D217) as follows.

Busy tone ON: "b "
Busy tone OFF: " " no indication
VOX ON: " " no indication
VOX OFF: " n"

6. STEP 6

When set to this step, it indicates " 6" on the 7 segments LED (D217).
In this step, when detects bell signal from line input (LINE jack: J1), it respondents automatically.
When it respondents automatically, indicates so that " – – "→ " _ _ " → " – – " → … on the 7 segments LED (D217) as follows.

[Initializing the DSP]

1. Power on with pressing the [ERASE] key for 4 seconds.
2. When start initializing, it beeps key-touch-tone.
3. Then finish initializing, it beeps confirm tone, and blinks "PF" on the 7 segments LED (D217).

HANDSET

[Setting the Test Mode]

1. Power on with press the [*] key and the [#] key simultaneously for one second.
2. It beeps confirm tone, and the test mode is set.

Note: If the [PGM] key is pressed, the unit cold starts next time when the power is turned on.

[Releasing the Test Mode]

To release the test mode, perform as follows:

- Press the [TALK] key.
- Turn the power off (remove the battery pack).
- Set the handset to charge on the base unit (except Test Mode 9).

[Changing the Test Mode No.]

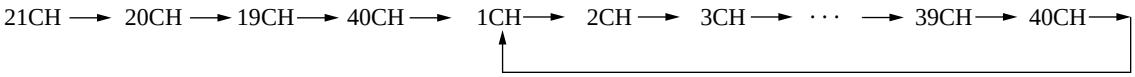
Press the each key of the test mode No.

[Changing the Channel]

Press the [CHANNEL] key.

Note: The channel is back to initial channel (21CH), when test mode No. is changed.

- Channel Rotation



[Test Mode Execution]

Press the each key for the desired test mode No. to execute any of the following tests:

No.	Test Mode Name	KEY	TX B (IC603 pin ㊷)	SC (IC603 pin ⑬)	$\overline{\text{TX MUTE}}$ (IC603 pin ⑪)	$\overline{\text{RX MUTE}}$ (IC603 pin ⑫)	$\overline{\text{CONV}}$ (IC603 pin ㊲)	Remarks
1	VCO/TX FREQ. ADJ	1	L	H	L	L	H	
2	TX MOD CHECK	2	L	H	H	L	L	
3	TX DATA	3	L	H	L	L	L	*1
4	RX SENS	4	H	H	L	H	L	
5	SQ SENS	5	L	H	L	*A	L	
6	RECEIVE DATA CHECK	6	L	H	L	L	H	*2
7	BELL CHECK	7	L	L	L	L	H	*3
8	BAT. LOW CHECK	8	L	L	L	L	H	*4
9	CHARGE CHECK	9	L	L	L	L	H	*5
10	DUPLEX	0	L	H	H	H	L	

*Initial Channel of each test mode No.: 21CH

*A. SQ on: H
SQ off: L

*1. Test Mode 3: Continue output TX data as " 0000·····".
*2. Test Mode 6: When locked receiving data is " 0000·····", it beeps confirm tone. (1 kHz)
*3. Test Mode 7: It rings with " H" level.
*4. Test Mode 8: When $\overline{\text{BATT LOW}}$ (IC404 pin ㉟) is " L" (battery low), it beeps confirm tone.
*5. Test Mode 9: When CHG IN (IC404 pin ㊱) is " L" (charge on), it beeps confirm tone.

SECTION 4
ELECTRICAL ADJUSTMENTS

0 dBm = 0.775 V, 0 dBV = 1 V

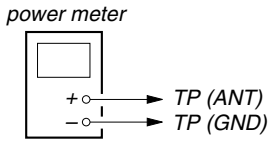
BASE UNIT

- Make the set in test mode. (See page 16)
- Remove the solder of the BP (ANT) on the BASE MAIN board when performing adjustments. After completing the adjustments, short the BP (ANT) by solder.

– TX Adjustments –

1. TX Power Adjustment

Setting:

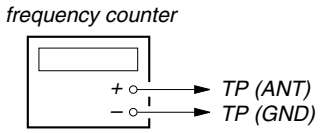


Procedure:

1. Connect a power meter to TP (ANT) and TP (GND) on the BASE MAIN board.
2. Adjust RT301 on the BASE RF board (the BASE RF board is mounted on the BASE MAIN board) so that the value of power meter becomes –5 dBm.

2. TX Frequency Adjustment

Setting:

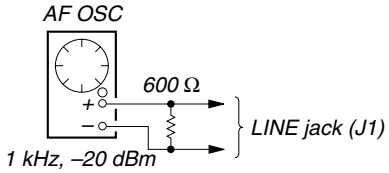


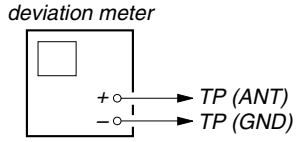
Procedure:

1. Connect a frequency counter to TP (ANT) and TP (GND) on the BASE MAIN board.
2. Adjust CT1 on the BASE MAIN board so that the value of frequency counter becomes 926.897468 MHz.

3. Modulation Sensitivity Adjustment

Setting:





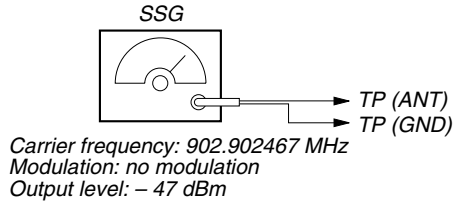
Procedure:

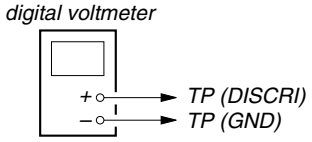
1. Connect an AF OSC to the LINE jack (J1) on the BASE MAIN board.
2. Connect a deviation meter to TP (ANT) and TP (GND) on the BASE MAIN board.
3. Set the DIAL MODE switch (S2) to the PULSE position.
4. Press the INTERCOM key once to change the test mode step to TX MOD CHECK.
5. Adjust RT3 on the BASE MAIN board so that the value of deviation meter becomes ±8 kHz deviation.

– RX Adjustments –

1. DISCRI Voltage Adjustment

Setting:



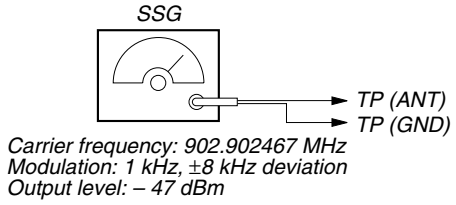


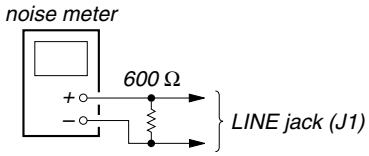
Procedure:

1. Connect a SSG to TP (ANT) and TP (GND) on the BASE MAIN board.
2. Connect a digital voltmeter to TP (DISCRI) and TP (GND) on the BASE MAIN board.
3. Set the DIAL MODE switch (S2) to the PULSE position.
4. Press the INTERCOM key three times to change the test mode step to RX SENS.
5. Adjust L3 on the BASE MAIN board so that the value of digital voltmeter becomes 1 V.

2. TEL Out Level Adjustment

Setting:



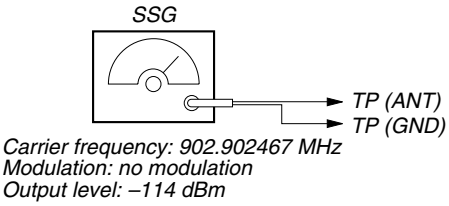


Procedure:

1. Change the modulation of SSG to 1 kHz, ±8 kHz deviation.
2. Connect a noise meter to the LINE jack (J1) on the BASE MAIN board.
3. Adjust RT2 on the BASE MAIN board so that the value of noise meter becomes –8.5 dBm.

3. SQ Sensitivity Adjustment

Setting:



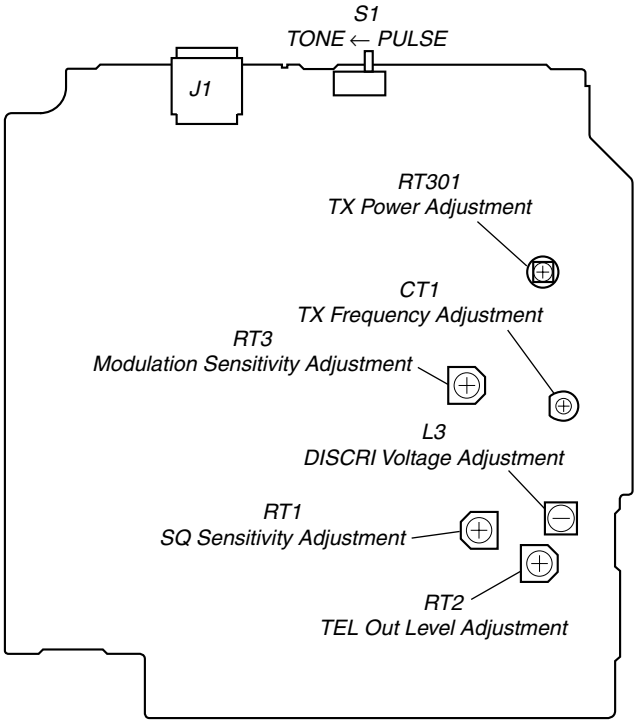
Carrier frequency: 902.902467 MHz
Modulation: no modulation
Output level: –114 dBm

Procedure:

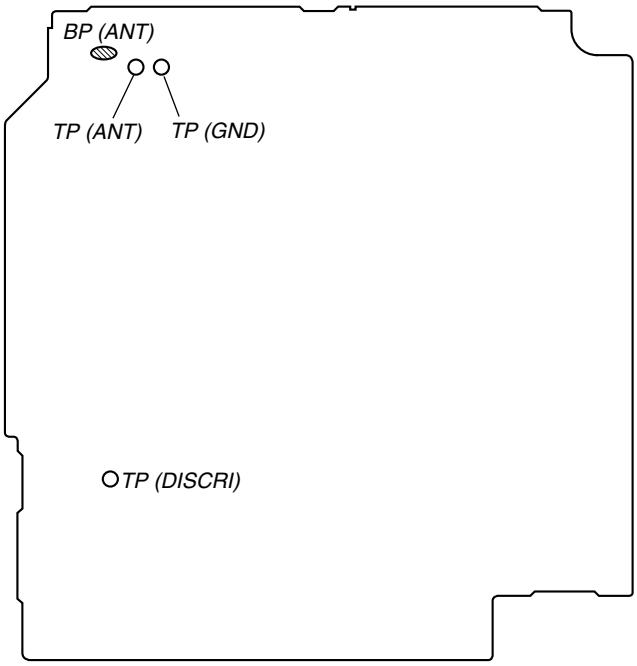
1. Change the modulation to no modulation and change the output level of SSG to –114 dBm.
2. Press the [INTERCOM] key once to change the test mode step to SQ SENS.
3. Adjust RT1 on the BASE MAIN board so that the CHARGE LED (D209) becomes blinking.

Adjustment Location:

– BASE MAIN BOARD –
(Component Side)



– BASE MAIN BOARD (Conductor Side) –



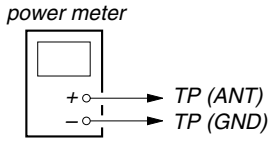
HANDSET

- Make the set in test mode. (See page 20)
- Remove the solder of the BP (ANT) on the HAND MAIN board when performing adjustments. After completing the adjustments, short the BP (ANT) by solder.

– TX Adjustments –

1. TX Power Adjustment

Setting:

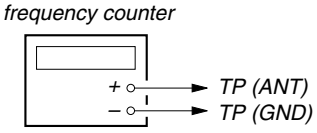


Procedure:

1. Connect a power meter to TP (ANT) and TP (GND) on the HAND MAIN board.
2. Adjust RT501 on the HAND RF board so that the value of power meter becomes –6.5 dBm.

2. TX Frequency Adjustment

Setting:

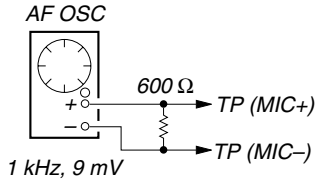


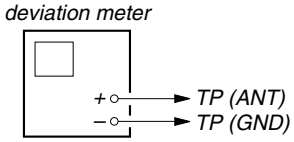
Procedure:

1. Connect a frequency counter to TP (ANT) and TP (GND) on the HAND MAIN board.
2. Restart the test mode to change the channel to 21CH.
3. Adjust CT601 on the HAND MAIN board so that the value of frequency counter becomes 926.997467 MHz.

3. Modulation Sensitivity Adjustment

Setting:





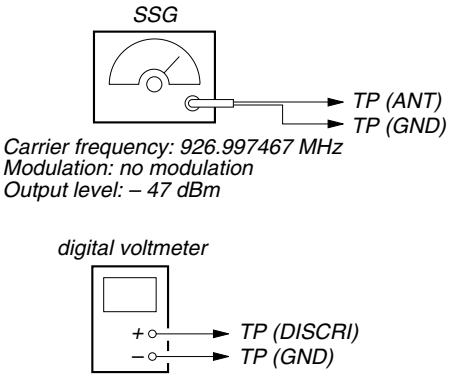
Procedure:

1. Disconnect the microphone (MC601) on the HAND MAIN board.
2. Connect an AF OSC to TP (MIC+) and TP (MIC–) on the HAND MAIN board.
3. Connect a deviation meter to TP (ANT) and TP (GND) on the HAND MAIN board.
4. Press the [2] key to change the test mode step to TX MOD CHECK.
5. Adjust RT603 on the HAND MAIN board so that the value of deviation meter becomes ±8 kHz modulation.

– RX Adjustments –

1. DISCRI Voltage Adjustment

Setting:

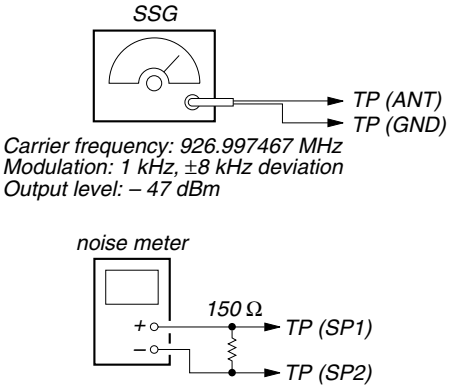


Procedure:

1. Connect a SSG to TP (ANT) and TP (GND) on the HAND MAIN board.
2. Connect a digital voltmeter to TP (DISCRI) and TP (GND) on the HAND MAIN board.
3. Press the [4] key to change the test mode step to RX SENS.
4. Adjust L602 on the HAND MAIN board so that the value of digital voltmeter becomes 0.95 V.

2. Speaker Out Level Adjustment

Setting:

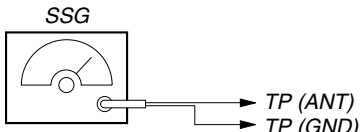


Procedure:

1. Change the modulation of SSG to 1 kHz, ±8 kHz deviation.
2. Disconnect the speaker (SP801).
3. Connect a noise meter to TP (SP1) and TP (SP2) on the HAND MAIN board.
4. Set the [VOL] switch (S601) to [M] position.
5. Adjust RT602 on the HAND MAIN board so that the value of noise meter becomes –18.5 dBV.

3. SQ Sensitivity Adjustment

Setting:



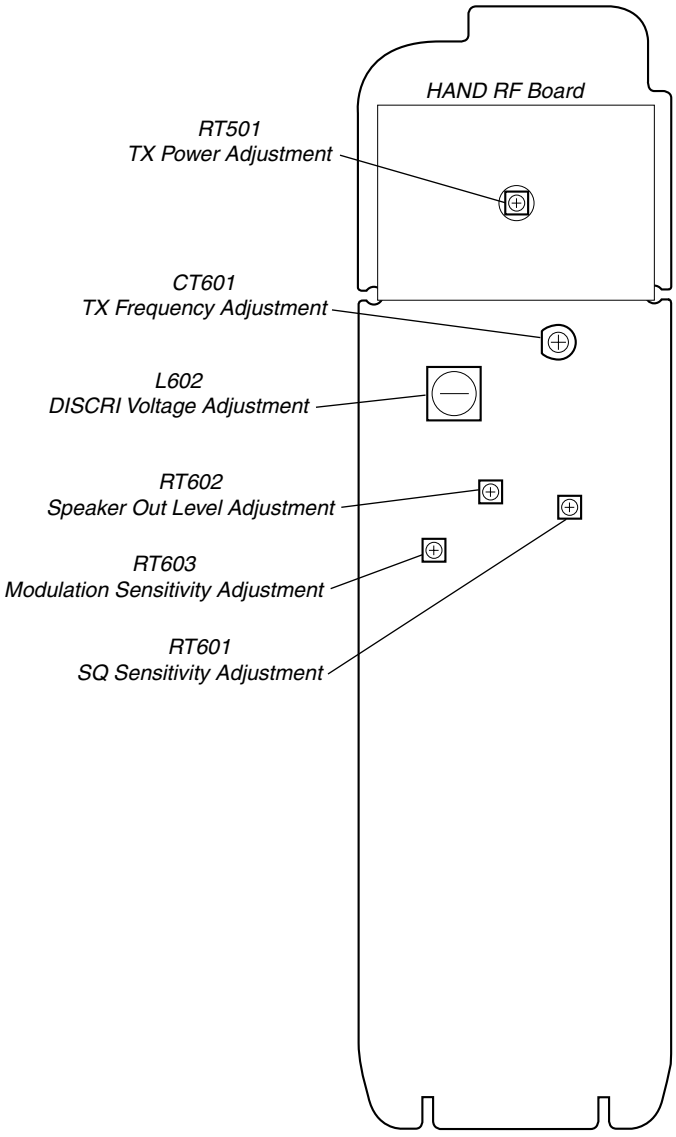
Carrier frequency: 926.997467 MHz
Modulation: 1 kHz, ±8 kHz deviation
Output level: –113 dBm

Procedure:

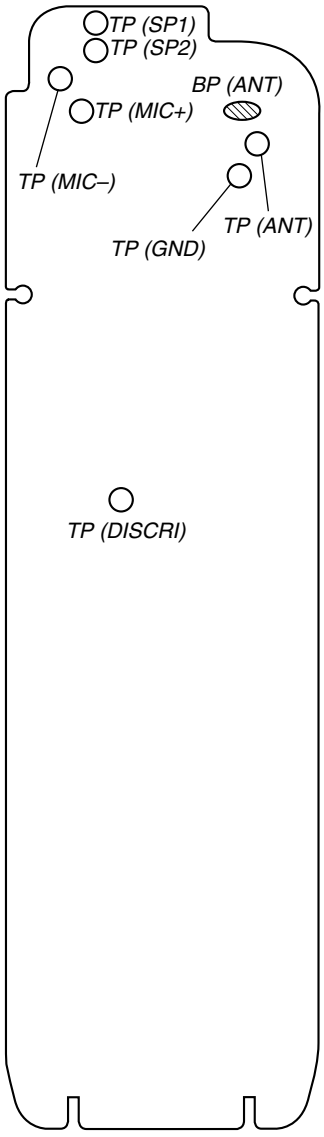
1. Change the output level of SSG to –113 dBm.
2. Press the [5] key to change the test mode step to SQ SENS.
3. Adjust RT601 so that the TALK/BATT LOW LED (D607) becomes blinking.

Adjustment Location:

– HAND MAIN BOARD –
(Component Side)

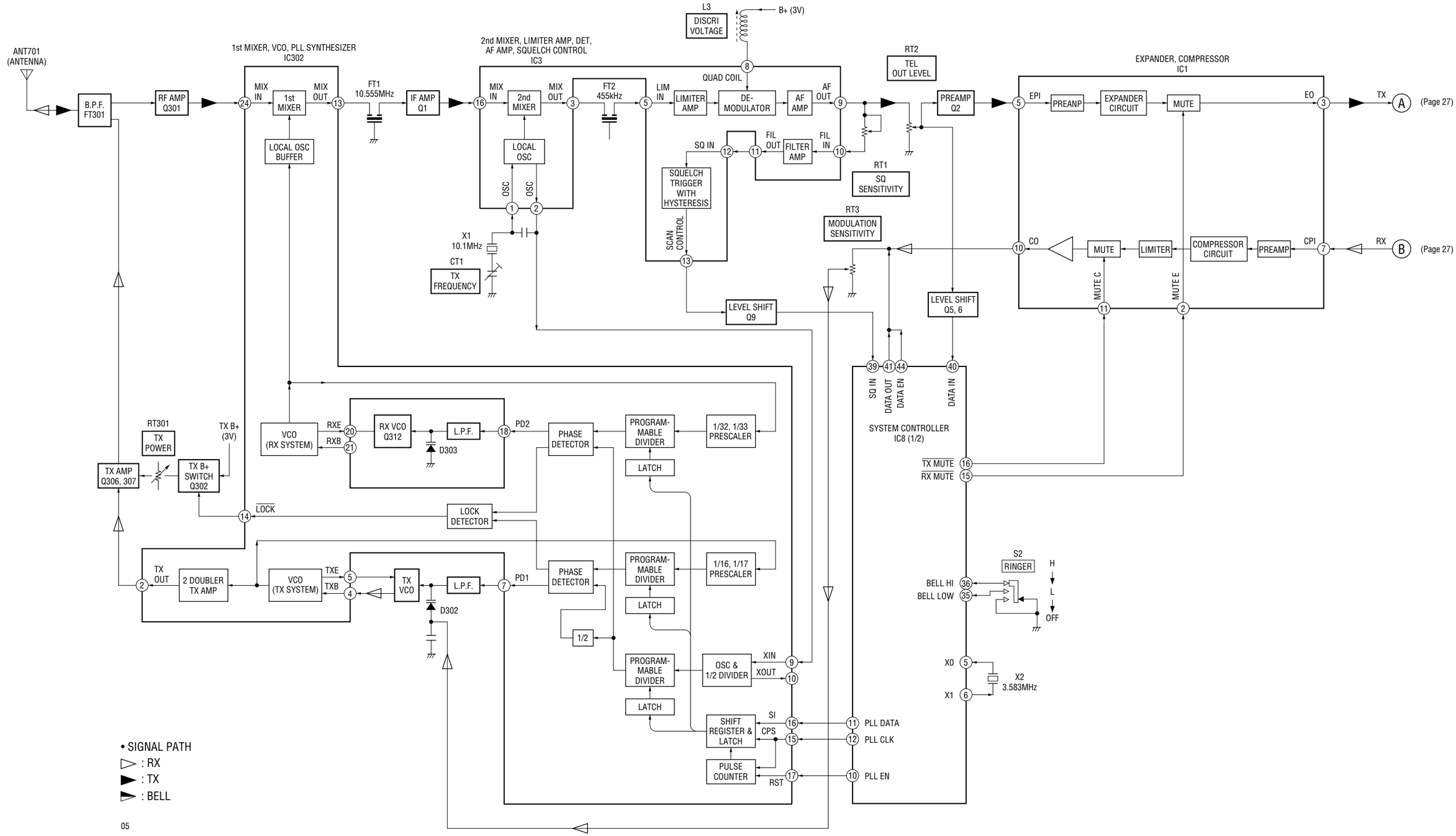


– HAND MAIN BOARD –
(Conductor Side)

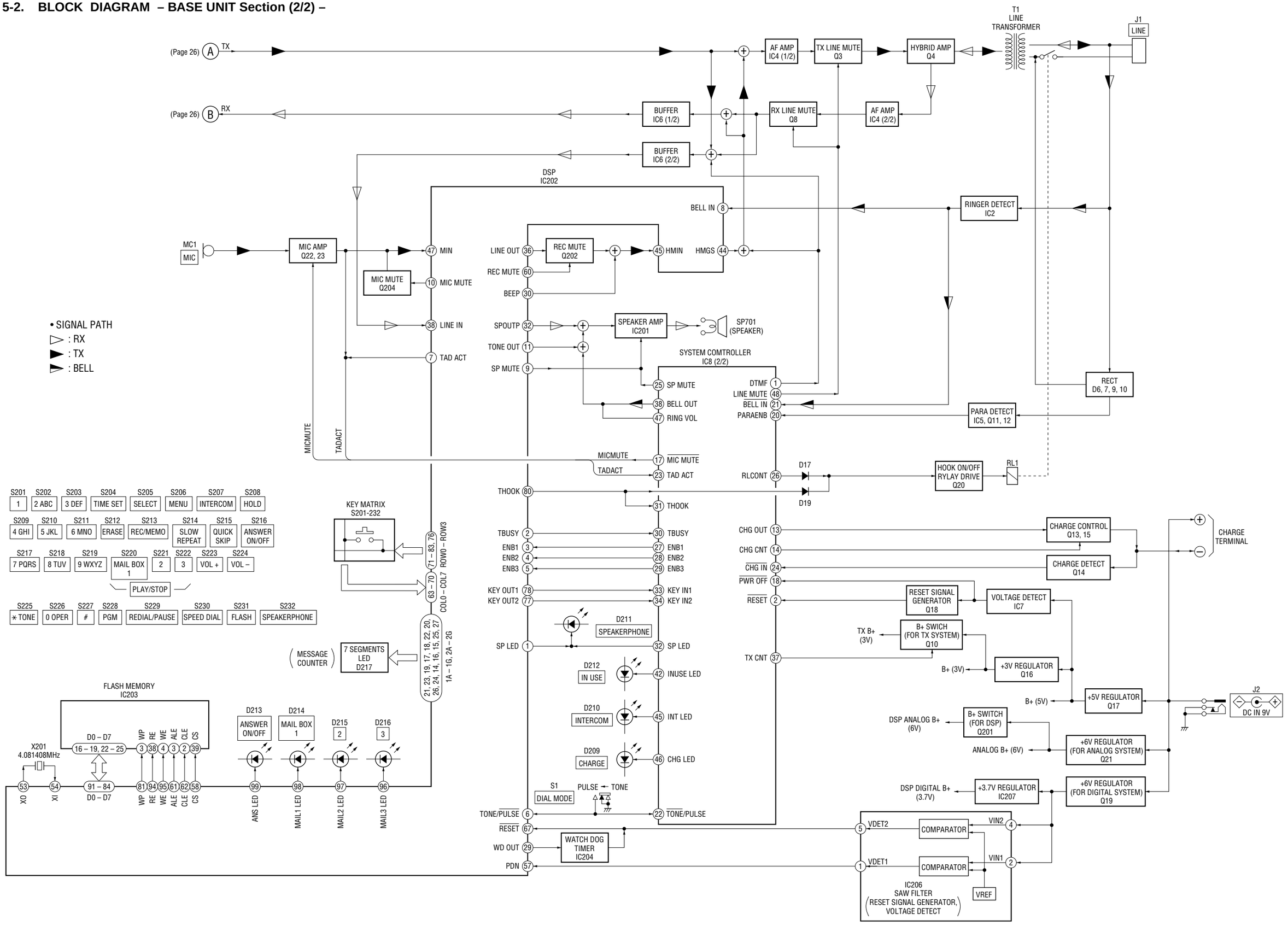


SECTION 5
DIAGRAMS

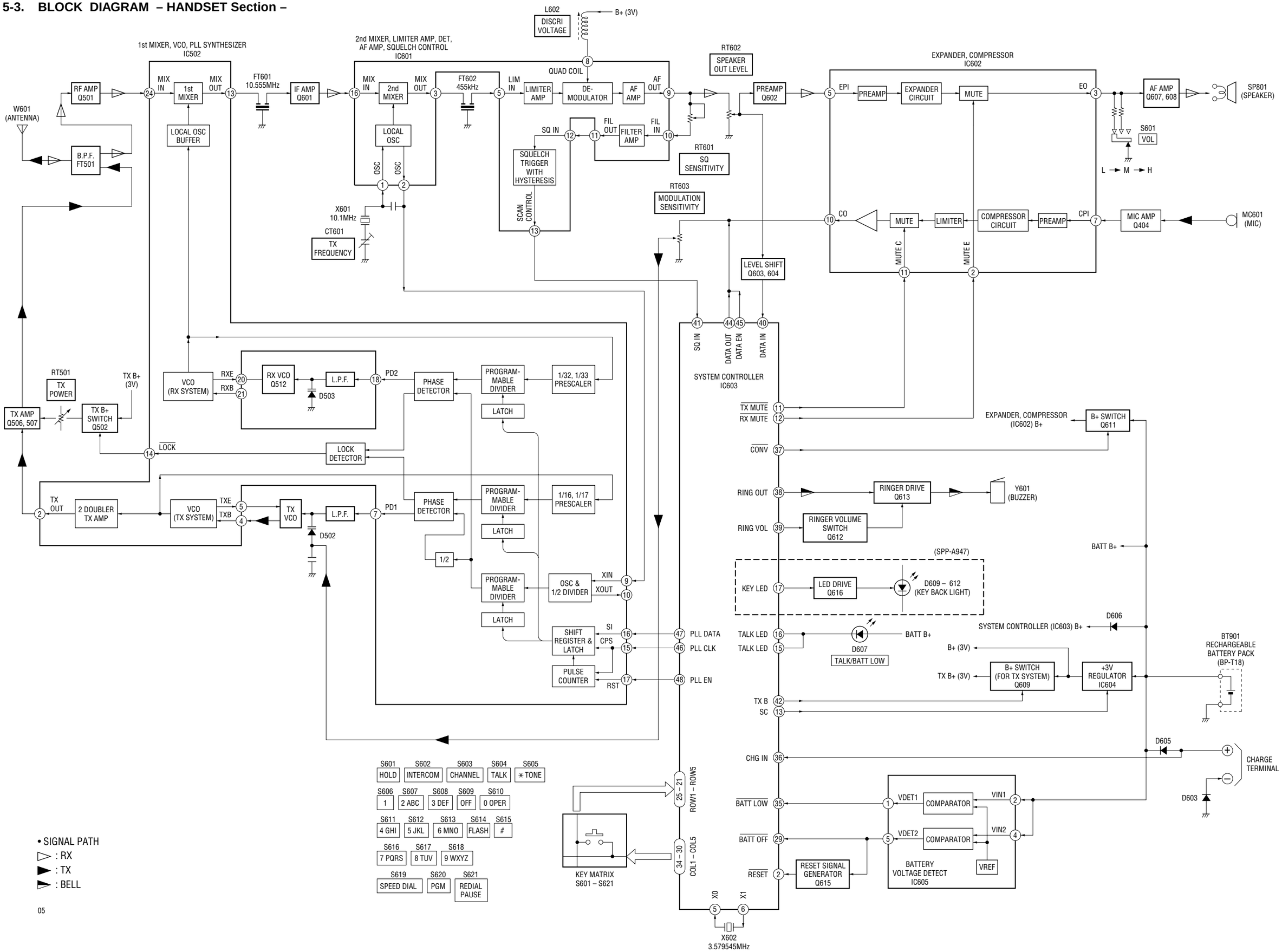
5-1. BLOCK DIAGRAM – BASE UNIT Section (1/2) –



5-2. BLOCK DIAGRAM – BASE UNIT Section (2/2) –



5-3. BLOCK DIAGRAM – HANDSET Section –



5-4. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- : indicates side identified with part number.
- : indicates direction of chip inductor.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

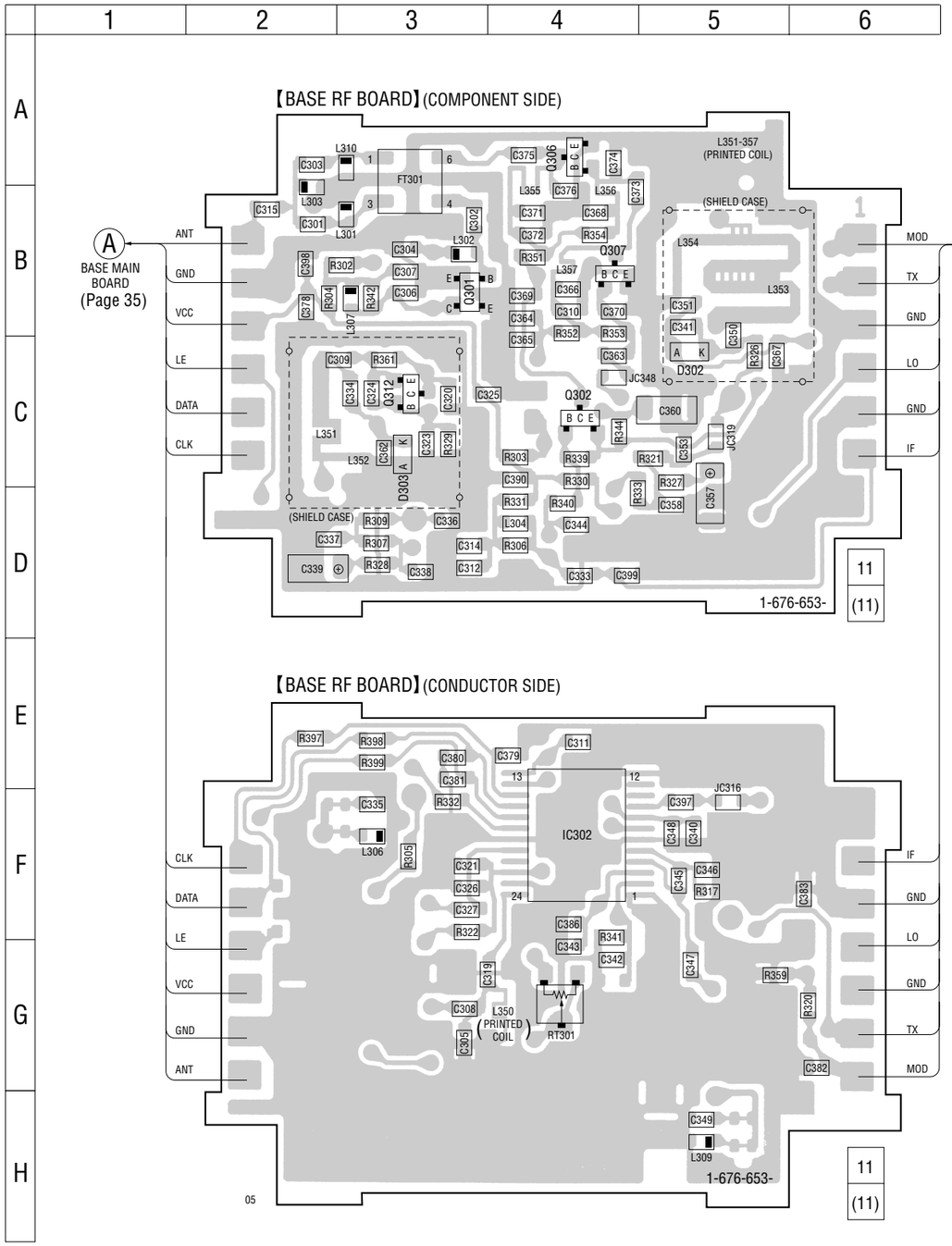
- ○– – –○ : connected by carbon pattern

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- : nonflammable resistor.
- : printed coil.
- : panel designation.
- B+ : B+ Line.
- : adjustment for repair.
- Power voltages are dc 9 V and fed with regulated dc power supply from external power voltage jack (J2) on the BASE MAIN board, dc 12 V and fed with regulated dc power supply from modular jack (J1) on the BASE MAIN board with 100 Ω in series, and dc 3.6 V and fed with regulated dc power supply from battery connector (J602) on the HAND MAIN board.
- Voltages and waveforms are dc with respect to ground in test mode.
  Base unit : test mode 1 (VCO/TX FREQ. ADJ)
  Handset : test mode 2 (TX MOD CHECK)
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : RX
  : TX
  : BELL

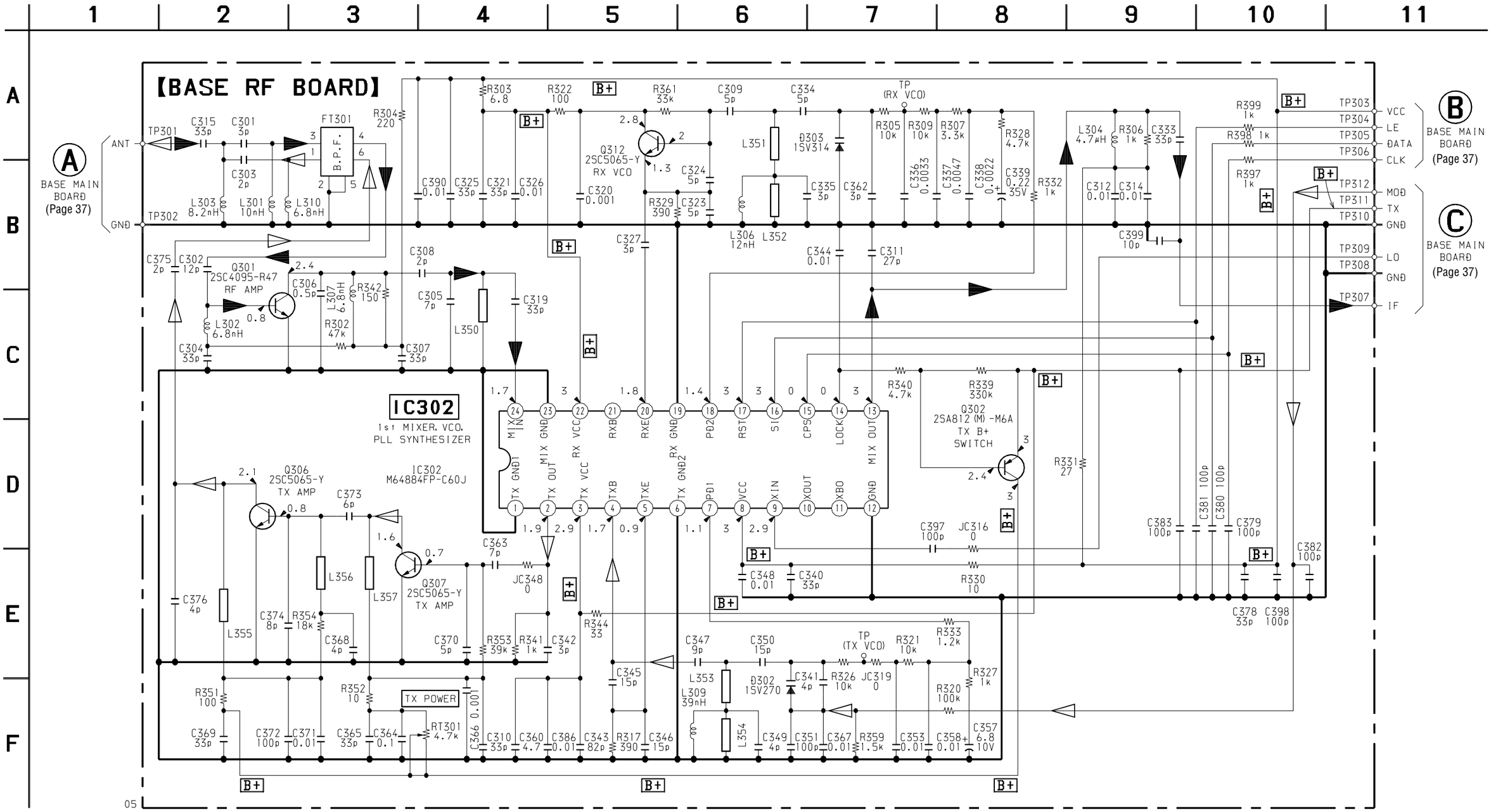
5-5. PRINTED WIRING BOARD – BASE RF Section –



- **Semiconductor Location**

Ref. No.	Location
D302	C-5
D303	C-3
IC302	F-4
Q301	B-3
Q302	C-4
Q306	A-4
Q307	B-4
Q312	C-3

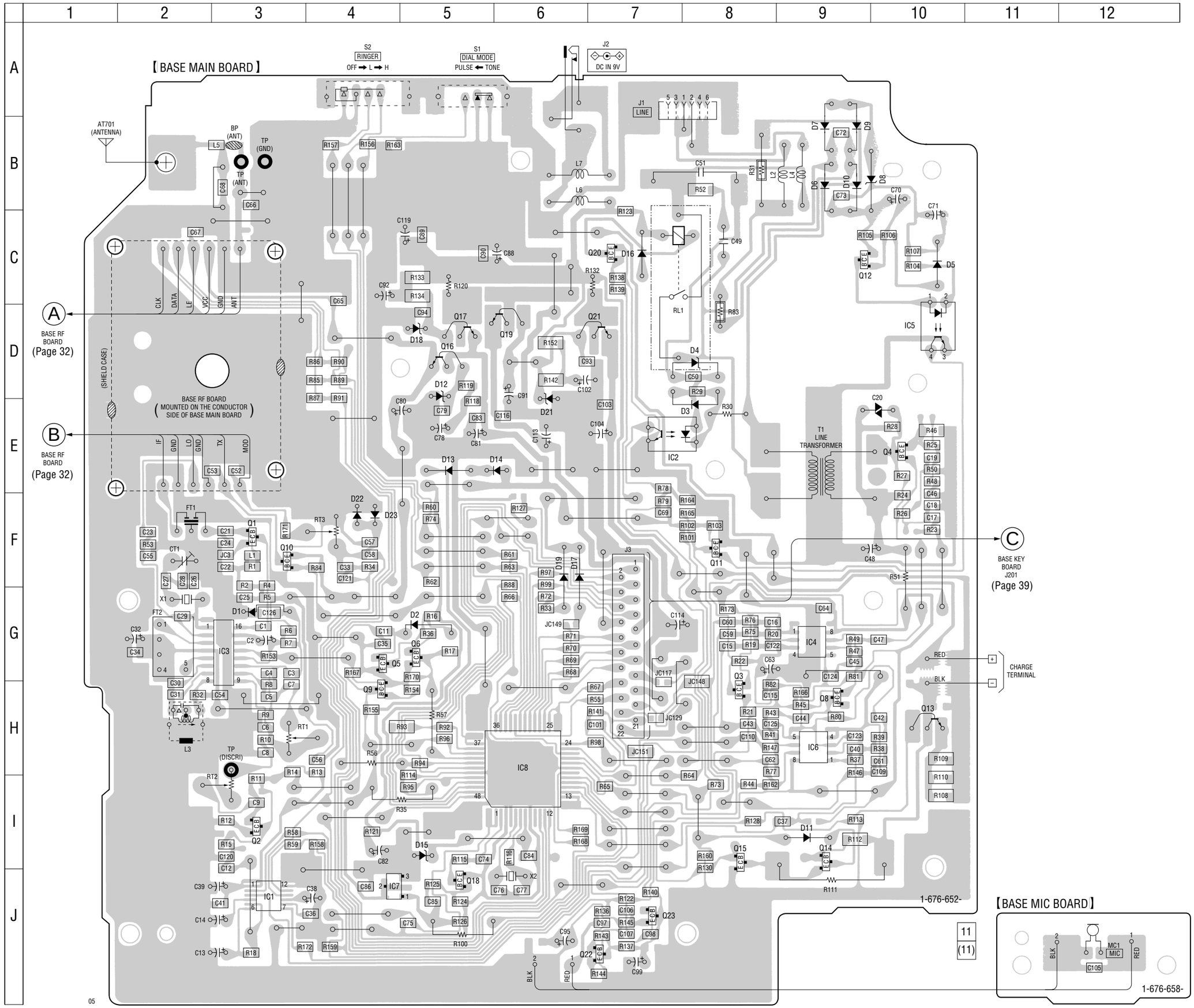
5-6. SCHEMATIC DIAGRAM – BASE RF Section – • See page 52 for IC Block Diagram.



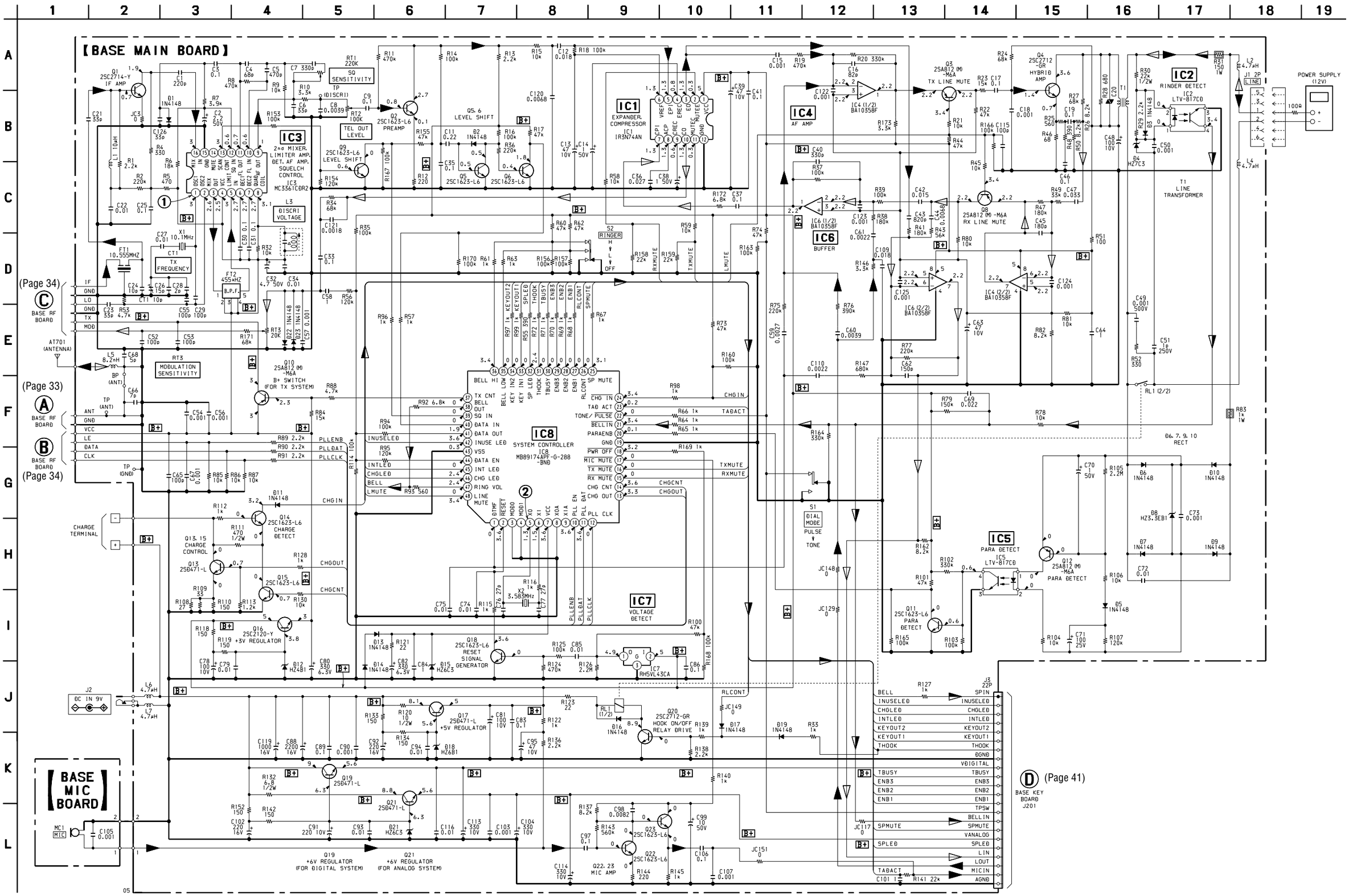
5-7. PRINTED WIRING BOARDS – BASE MAIN Section –

- **Semiconductor Location**

Ref. No.	Location
D1	G-3
D2	G-5
D3	E-8
D4	D-8
D5	C-10
D6	B-9
D7	B-9
D8	B-10
D9	B-9
D10	B-9
D11	I-9
D12	D-5
D13	E-5
D14	E-6
D15	I-5
D16	C-7
D17	F-6
D18	D-5
D19	F-6
D21	E-6
D22	F-4
D23	F-4
IC1	J-3
IC2	E-7
IC3	G-3
IC4	G-9
IC5	D-10
IC6	H-9
IC7	J-4
IC8	H-6
Q1	F-3
Q2	I-3
Q3	H-8
Q4	E-10
Q5	G-4
Q6	G-5
Q8	H-9
Q9	H-4
Q10	F-3
Q11	F-8
Q12	C-9
Q13	H-10
Q14	I-9
Q15	I-8
Q16	D-5
Q17	D-5
Q18	J-5
Q19	D-6
Q20	C-7
Q21	D-7
Q22	J-7
Q23	J-7



5-8. SCHEMATIC DIAGRAM – BASE MAIN Section – • See page 43 for Waveforms. • See page 51 for IC Block Diagrams.



5-9. PRINTED WIRING BOARD – BASE KEY Section –

- **Semiconductor Location**

Ref. No.	Location
D201	B-11
D202	B-12
D203	D-12
D204	B-11
D205	I-12
D208	I-12
D209	J-2
D210	J-6
D211	I-4
D212	I-2
D213	B-6
D214	E-5
D215	D-5
D216	D-5
D217	B-10
D218	F-9
D219	I-12
D220	D-9
IC201	B-8
IC202	E-10
IC203	E-12
IC204	I-11
IC207	C-13
Q201	C-12
Q202	E-8
Q204	F-8

【BASE KEY BOARD】
(COMPONENT SIDE)

【BASE KEY BOARD】(CONDUCTOR SIDE)

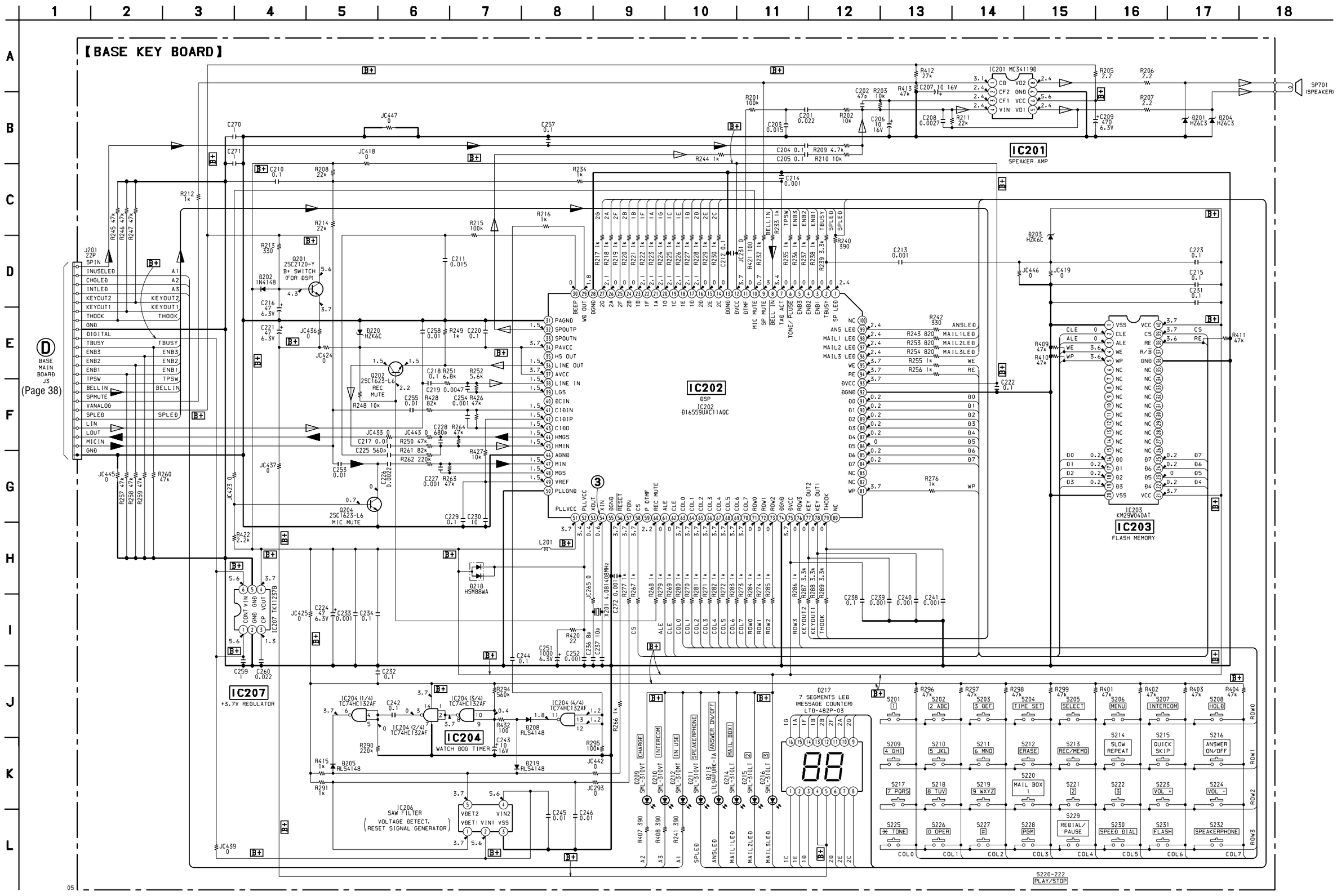
BASE MAIN BOARD J3 (Page 36)

D209-216

1-676-650-

11
(11)

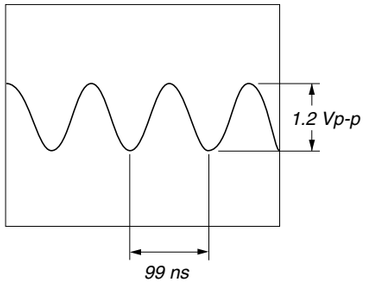
5-10. SCHEMATIC DIAGRAM – BASE KEY Section – • See page 43 for Waveform. • See page 51 for IC Block Diagrams.



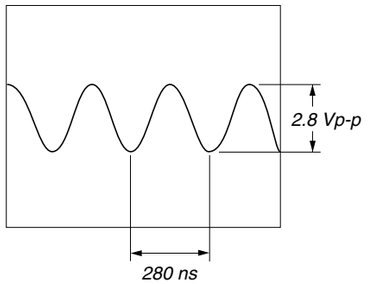
• **Waveforms**

– BASE MAIN Board –

❶ IC3 ① (OSC1)
500 mV/DIV, 50 ns/DIV

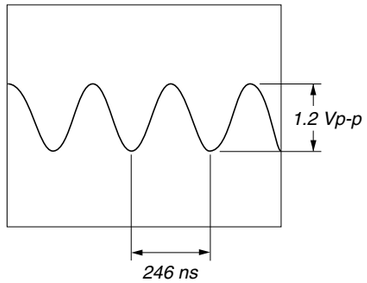


❷ IC8 ⑤ (X0)
1 V/DIV, 100 ns/DIV



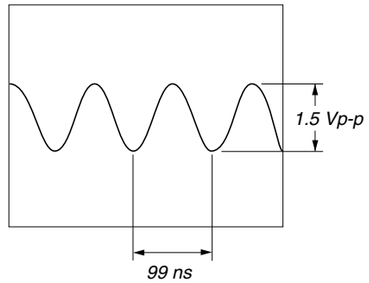
– BASE KEY Board –

❸ IC202 ㊹ (XIN)
500 mV/DIV, 100 ns/DIV

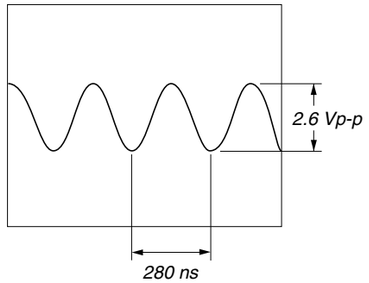


– HAND MAIN Board –

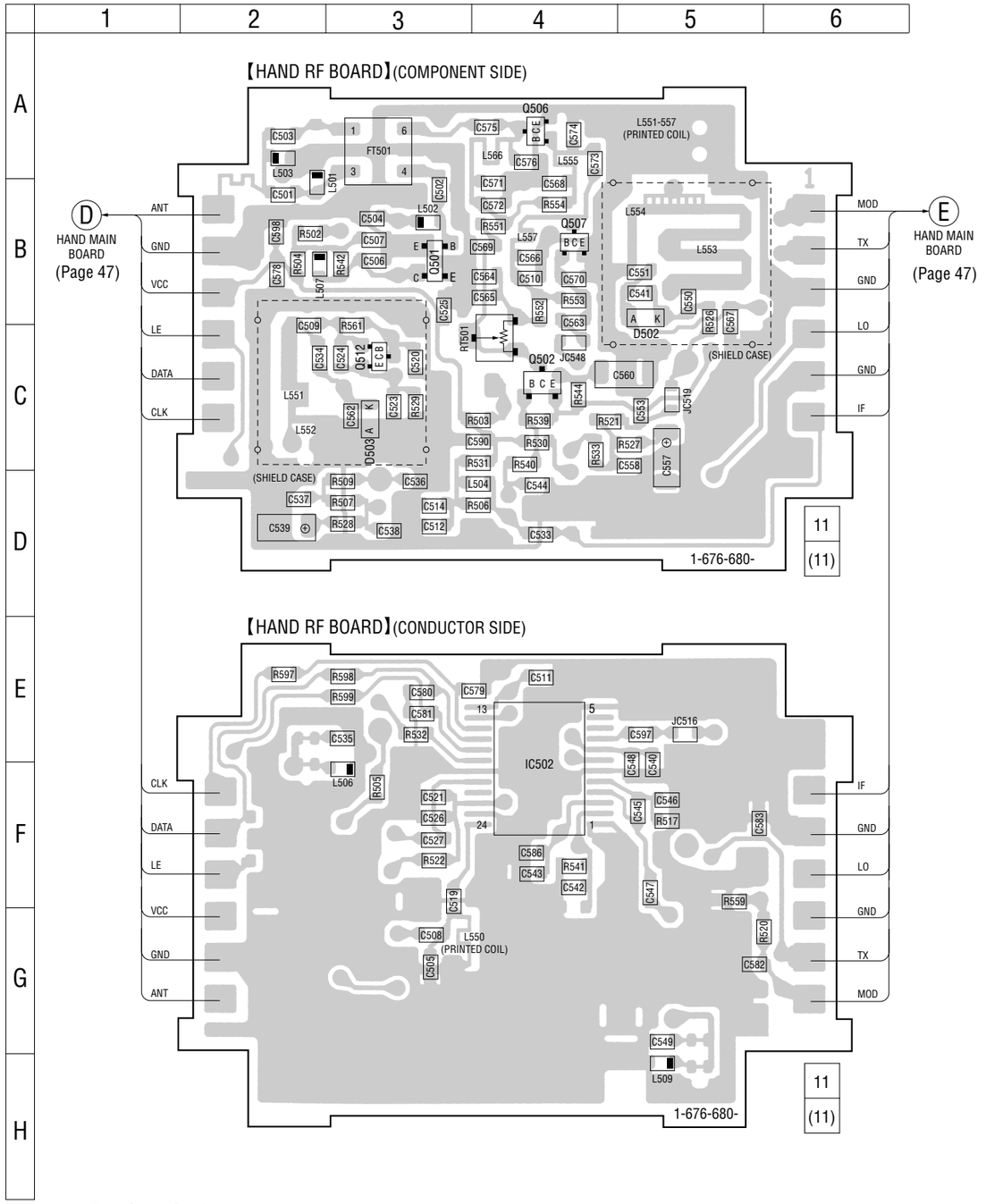
❹ IC601 ① (OSC1)
500 mV/DIV, 50 ns/DIV



❺ IC603 ⑤ (X0)
1 V/DIV, 100 ns/DIV



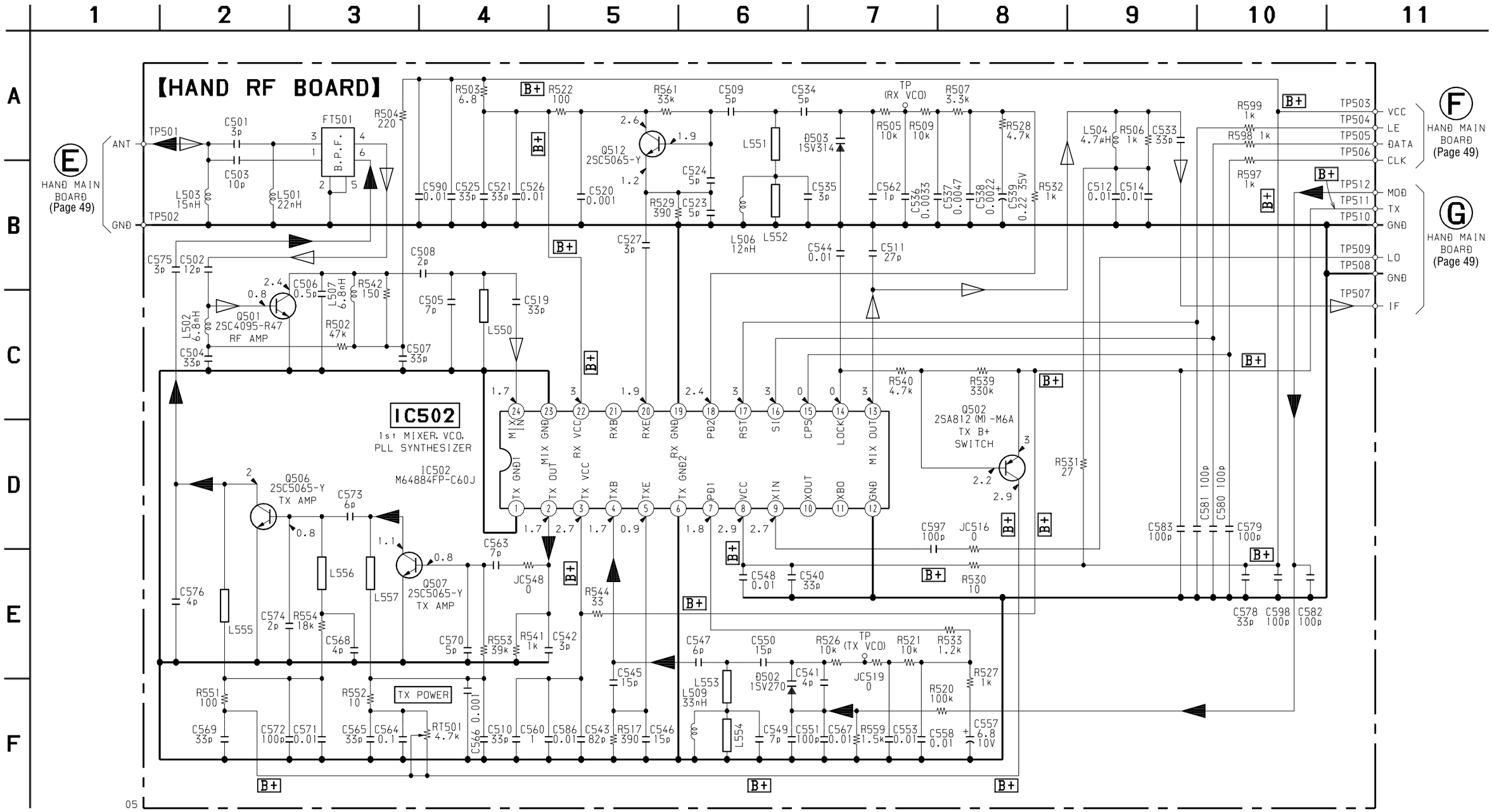
5-11. PRINTED WIRING BOARD – HAND RF Section –



• **Semiconductor Location**

Ref. No.	Location
D502	B-5
D503	C-3
IC502	F-4
Q501	B-3
Q502	C-4
Q506	A-4
Q507	B-4
Q512	C-3

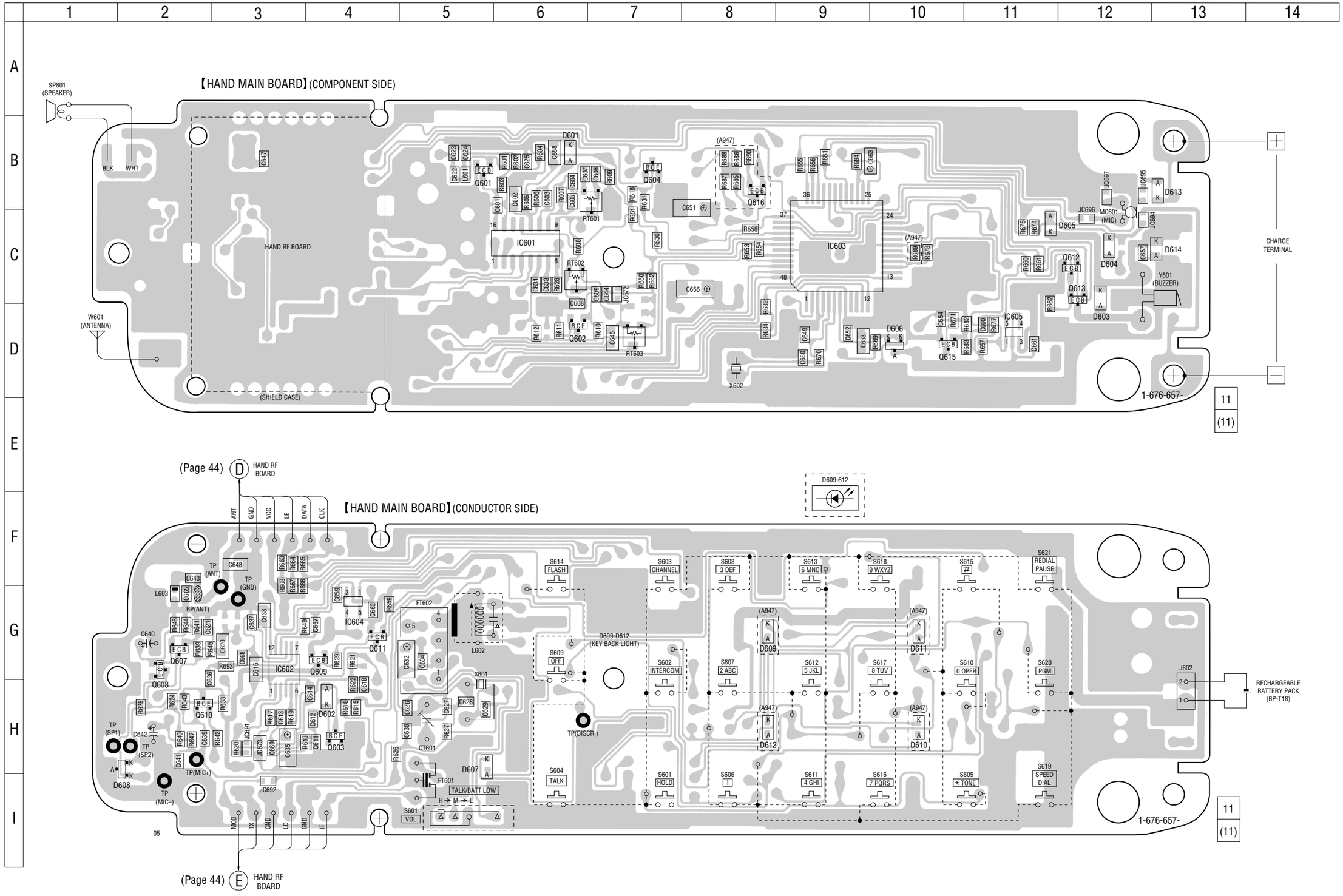
5-12. SCHEMATIC DIAGRAM – HAND RF Section –



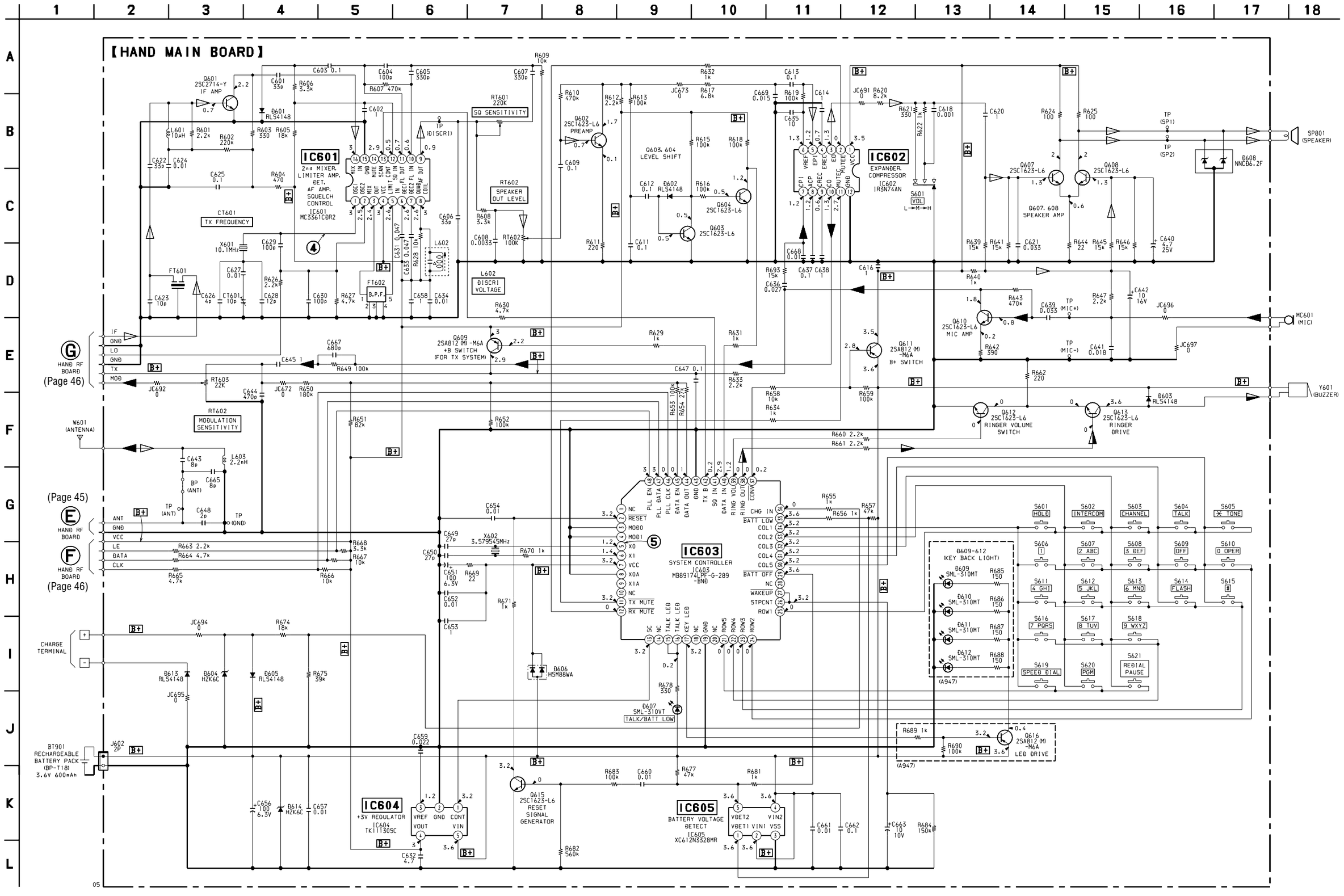
5-13. PRINTED WIRING BOARD – HAND MAIN Section –

- **Semiconductor Location**

Ref. No.	Location
D601	B-6
D602	H-4
D603	C-12
D604	C-12
D605	C-11
D606	D-10
D607	H-5
D608	H-2
D609	G-8
D610	H-10
D611	G-10
D612	H-8
D613	B-13
D614	C-13
IC601	C-6
IC602	G-3
IC603	C-9
IC604	G-4
IC605	D-11
Q601	B-5
Q602	D-6
Q603	H-4
Q604	B-7
Q607	G-2
Q608	G-2
Q609	G-4
Q610	H-2
Q611	G-4
Q612	C-12
Q613	C-12
Q615	D-10
Q616	B-8

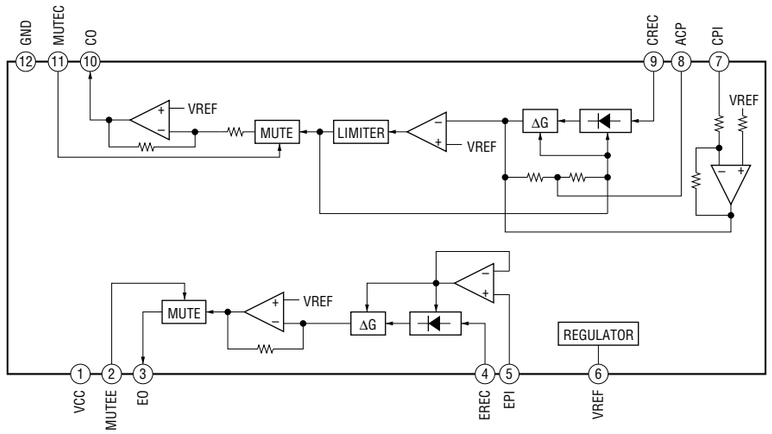


5-14. SCHEMATIC DIAGRAM – HAND MAIN Section – • See page 43 for Waveforms. • See page 51 for IC Block Diagrams.

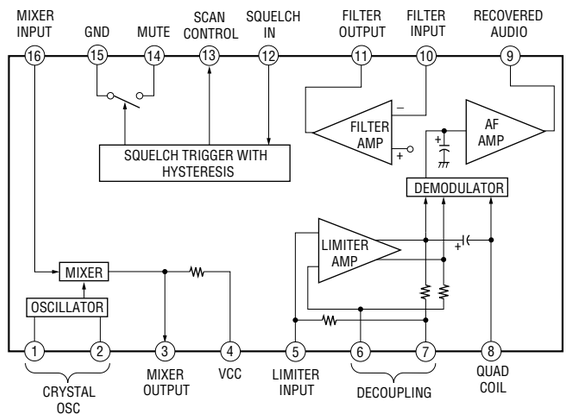


- **IC Block Diagrams**

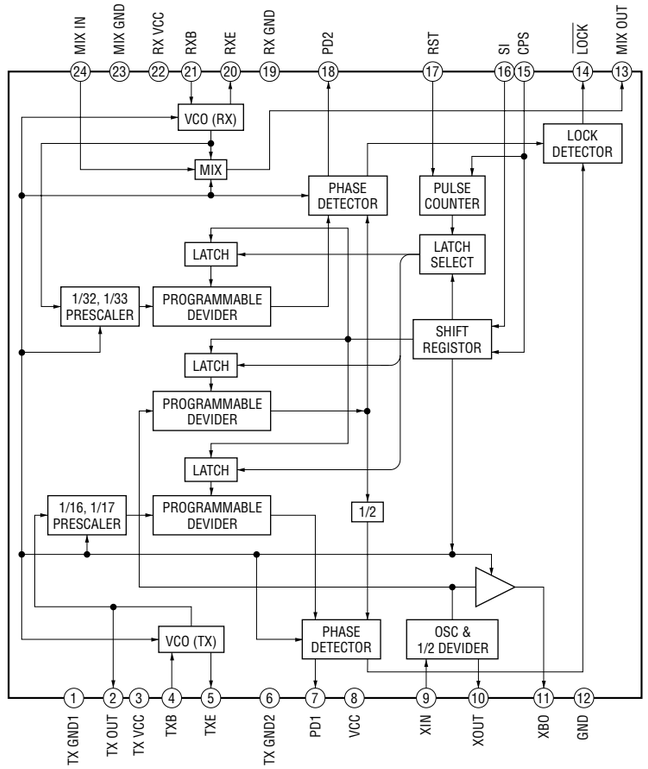
IC1 IR3N74AN (BASE MAIN Board)
IC602 IR3N74AN (HAND MAIN Board)



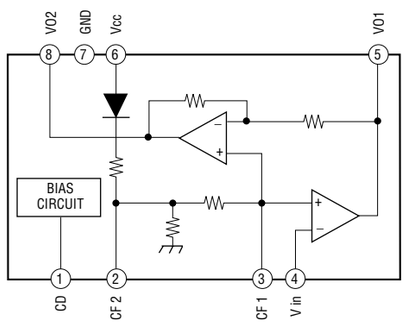
IC3 MC3361CD (BASE MAIN Board)
IC601 MC3361CD (HAND MAIN Board)



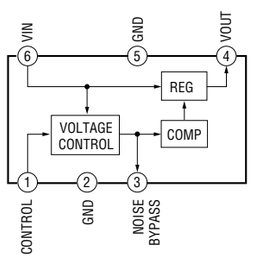
IC302 M64884FP-C60J (BASE RF Board)
IC502 M64884FP-C60J (BASE RF Board)



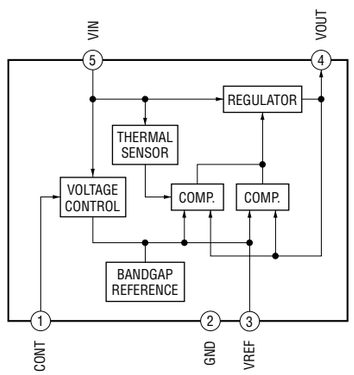
IC201 MC34119DR2 (BASE KEY Board)



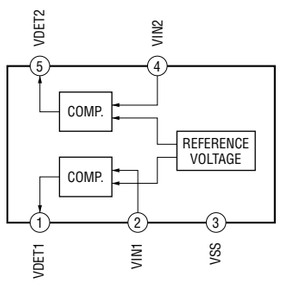
IC207 TK11237BMCL (BASE KEY Board)



IC604 TK11130SCL (HAND MAIN Board)



IC605 XC612N3328MR (HAND MAIN Board)



5-15. IC PIN FUNCTION DESCRIPTION

• BASE MAIN BOARD IC8 MB89174APF-G-288-BND (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Description
1	DTMF	O	DTMF tone signal output terminal
2	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (Q18) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
3, 4	MOD0, MOD1	I	Setting terminal for the CPU operational mode Fixed at "L" in this set
5	X0	I	Main system clock input terminal (3.583 MHz)
6	X1	O	Main system clock output terminal (3.583 MHz)
7	VCC	—	Power supply terminal (+5V)
8	X0A	I	Sub system clock input terminal Not used (fixed at "L")
9	X1A	O	Sub system clock output terminal Not used (open)
10	PLL EN	O	Chip enable signal output to the M64884FP (IC302) When PLL EN goes from "L" to "H", it load data from PLL DATA
11	PLL DATA	O	PLL serial data output to the M64884FP (IC302)
12	PLL CLK	O	PLL serial data transfer clock signal output to the M64884FP (IC302)
13	CHG OUT	O	Charge on/off control signal output terminal "H": charge on
14	CHG CNT	O	Charge on/off circuit control signal output terminal
15	$\overline{\text{RX MUTE}}$	O	Muting control signal output to the IR3N74AN (IC1) "L": muting on At RX mode: After receiving premble bits from handset muting it until data sent finished
16	$\overline{\text{TX MUTE}}$	O	Muting control signal output to the IR3N74AN (IC1) "L": muting on At TX mode: During sending data to handset, muting it
17	$\overline{\text{MIC MUTE}}$	O	Microphone amplifier on/off control signal output terminal "L": muting on
18	$\overline{\text{PWR OFF}}$	I	Battery level detect signal input from the RH5VL43CA (IC7) "L": battery off
19	GND	—	Ground terminal
20	PARAENB	I	Establish telephone detect signal input terminal "L": off hook
21	$\overline{\text{BELL IN}}$	I	Detect signal input of the ringer coming "L": ringer coming
22	TONE/$\overline{\text{PULSE}}$	I	DIAL MODE switch (S1) input terminal "L": tone mode, "H": pulse mode
23	TAD ACT	I	Operation status signal input form the DSP (IC202)
24	$\overline{\text{CHG IN}}$	I	Charge detection signal input terminal "L": charge on
25	SP MUTE	O	Speaker muting control signal output to the speaker amplifier(IC201) "H": muting on
26	RLCONT	O	Relay drive signal output terminal "H": hook on
27 to 29	ENB1 to ENB3	O	Telephone mode signal output to the DSP (IC202) *1
30	TBUSY	I	Busy signal input from the DSP (IC202) "H": in the midst dialing
31	THOOK	I	Status signal input from the DSP (IC202) "L": in the midst automatic response or line remote
32	SP LED	O	LED drive signal output of the SPEAKERPHONE indicator (D211) "L": LED on
33	KEY IN1	I	Key on signal input of INTERCOM key (S207) is pressed from the DSP (IC202) "H": key on
34	KEY IN2	I	Key on signal input of SPEAKERPHONE key (S232) is pressed from the DSP (IC202) "H": key on
35	BELL LOW	I	RINGER switch (S2) input terminal "L": volume level is low
36	BELL HI	I	RINGER switch (S2) input terminal "L": volume level is high
37	TX CNT	O	TX system power supply on/off control signal output "L": TX system power on
38	BELL OUT	O	Bell output terminal to the speaker amplifier (IC201)
39	SQ IN	I	Squelch signal (carrier detection signal) input from the MC3361CDR2 (IC3) "L": carrier present, "H": no carrier
40	DATA IN	I	Receive data input terminal
41	DATA OUT	O	Transmit data output terminal
42	INUSE LED	O	LED drive signal output of the IN USE indicator (D212) "L": LED on

Pin No.	Pin Name	I/O	Description
43	VSS	—	Ground terminal
44	DATA EN	O	Transmit data enable signal output terminal
45	INT LED	O	LED drive signal output of the INTERCOM indicator (D210) "L": LED on
46	CHG LED	O	LED drive signal output of the CHARGE indicator (D209) "L": LED on
47	RING VOL	O	Bell volume control terminal "L": bell volume is low
48	LINE MUTE	O	Line muting control signal output terminal "H": muting on

*1 mode control

Terminal \ Mode	STANDBY	TALK	INTERCOM	SPEAKER-PHONE	HOLD	THREE-WAY CONFERENCE
ENB1 (pin ㉗)	"L"	"L"	"L"	"L"	"H"	"H"
ENB2 (pin ㉘)	"L"	"L"	"H"	"H"	"L"	"H"
ENB3 (pin ㉙)	"L"	"H"	"L"	"H"	"L"	"H"

• BASE KEY BOARD IC202 D16559UAC11AQC (DSP)

Pin No.	Pin Name	I/O	Description
1	SP LED	O	LED drive signal output of the SPEAKERPHONE indicator (D211) "L": LED on
2	TBUSY	O	Busy signal output to the system controller (IC8) "H": in the midst dialing
3 to 5	ENB1 to ENB3	O	Telephone mode signal output to the system controller (IC8)
6	TONE/$\overline{\text{PULSE}}$	I	DIAL MODE switch (S1) input terminal "L": tone mode, "H": pulse mode
7	TAD ACT	O	Operation status signal output to the system controller (IC8)
8	$\overline{\text{BELL IN}}$	I	Detect signal input of the ringer coming "L": ringer coming
9	SP MUTE	O	Speaker muting control signal output to the speaker amplifier (IC201) "H": muting on
10	MIC MUTE	O	Microphone muting control signal output terminal "H": muting on
11	DTMF	O	DTMF tone signal output terminal
12	DVCC	—	Power supply terminal (+5V) (for digital)
13	DGND	—	Ground terminal (for digital)
14	2C	O	7 segments LED drive signal output (for 2nd figure-3)
15	2E	O	7 segments LED drive signal output (for 2nd figure-5)
16	2D	O	7 segments LED drive signal output (for 2nd figure-4)
17	1D	O	7 segments LED drive signal output (for 1st figure-4)
18	1E	O	7 segments LED drive signal output (for 1st figure-5)
19	1C	O	7 segments LED drive signal output (for 1st figure-3)
20	1G	O	7 segments LED drive signal output (for 1st figure-7)
21	1A	O	7 segments LED drive signal output (for 1st figure-1)
22	1F	O	7 segments LED drive signal output (for 1st figure-6)
23	1B	O	7 segments LED drive signal output (for 1st figure-2)
24	2B	O	7 segments LED drive signal output (for 2nd figure-2)
25	2F	O	7 segments LED drive signal output (for 2nd figure-6)
26	2A	O	7 segments LED drive signal output (for 2nd figure-1)
27	2G	O	7 segments LED drive signal output (for 2nd figure-7)
28	DGND	—	Ground terminal (for digital)
29	WD OUT	O	Clear the watch dog timer signal output to the
30	BEEP	O	Beep sound output terminal
31	PAGND	—	Ground terminal (for analog)
32	SP OUTP	O	Speaker output terminal
33	SP OUTN	O	Speaker output terminal Not used (open)
34	PAVCC	—	Power supply terminal (+5V) (for analog)
35	HS OUT	O	Not used (open)
36	LINE OUT	O	Line output terminal
37	PAVCC	—	Power supply terminal (+5V) (for analog)
38	LINE IN	I	Line input to the internal operational amplifier
39	LGS	O	Line output from the internal operational amplifier
40	DCIN	I	Not used (open)
41	CIDIN	I	Not used
42	CIDIP	I	Not used
43	CIDO	O	Not used
44	HMGS	O	Line and beep sound output from the internal operational amplifier
45	HMIN	I	Line and beep sound input to the internal operational amplifier
46	AGND	—	Ground terminal (for analog)
47	MIN	I	Microphone input to the internal operational amplifier

Pin No.	Pin Name	I/O	Description
48	MGS	O	Microphone output from the internal operational amplifier
49	VREF	O	Reference voltage output terminal
50	PLLGND	—	Ground terminal (for PLL)
51	PLLVCC	—	Power supply terminal (+5V) (for PLL)
52	PLLVCC	—	Power supply terminal (+5V) (for PLL)
53	XOUT	O	System clock output terminal (4.081408 MHz)
54	XIN	I	System clock input terminal (4.081408 MHz)
55	DGND	—	Ground terminal (for digital)
56	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC206) or watch dog timer (IC204) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
57	PDN	I	Power done detect signal input from the XC612N4540MR (IC206) "L": power down
58	CS	O	Chip select signal output to the flash memory (IC203)
59	P DTMF	O	Busy signal output terminal "L": in the midst output DTMF Not used (open)
60	REC MUTE	O	Line output from LINE OUT (pin ㊱) muting control signal output "L": in the midst recording
61	ALE	O	Address latch enable signal output to the flash memory (IC203)
62	CLE	O	Command latch enable signal output to the flash memory (IC203)
63 to 70	COL0 to COL7	I	Key return signal input from the key matrix
71 to 73	ROW0 to ROW2	O	Key send signal output to the key matrix
74	DGND	—	Ground terminal (for digital)
75	DVCC	—	Power supply terminal (+5V) (for digital)
76	ROW3	O	Key send signal output to the key matrix
77	KEY OUT1	O	Key on signal output of INTERCOM key (S207) is pressed to the system controller (IC8) "H": key on
78	KEY OUT2	O	Key on signal output of SPEAKERPHONE key (S232) is pressed to the system controller (IC8) "H": key on
79	THOOK	O	Status signal output to the system controller (IC8) "L": in the midst automatic response or line remote
80	NC	—	Not used (open)
81	WP	O	Write protect signal output to the flash memory (IC203) "L": protect
82, 83	NC	—	Not used (open)
84 to 91	D7 to D0	I/O	Two-way data bus with the flash memory (IC203)
92	DGND	—	Ground terminal (for digital)
93	DVCC	—	Power supply terminal (+5V) (for digital)
94	RE	O	Reed enable signal output to the flash memory (IC203)
95	WE	O	Write enable signal output to the flash memory (IC203)
96	MAIL1 LED	O	LED drive signal output of the MAIL BOX1 indicator (D213) "L": LED on
97	MAIL2 LED	O	LED drive signal output of the MAIL BOX2 indicator (D214) "L": LED on
98	MAIL3 LED	O	LED drive signal output of the MAIL BOX3 indicator (D215) "L": LED on
99	ANS LED	O	LED drive signal output of the ANSWER ON/OFF indicator (D216) "L": LED on
100	NC	—	Not used (open)

• HAND MAIN BOARD IC603 MB89174LPF-G-289-BND (SYSTEM CONTROLLER)

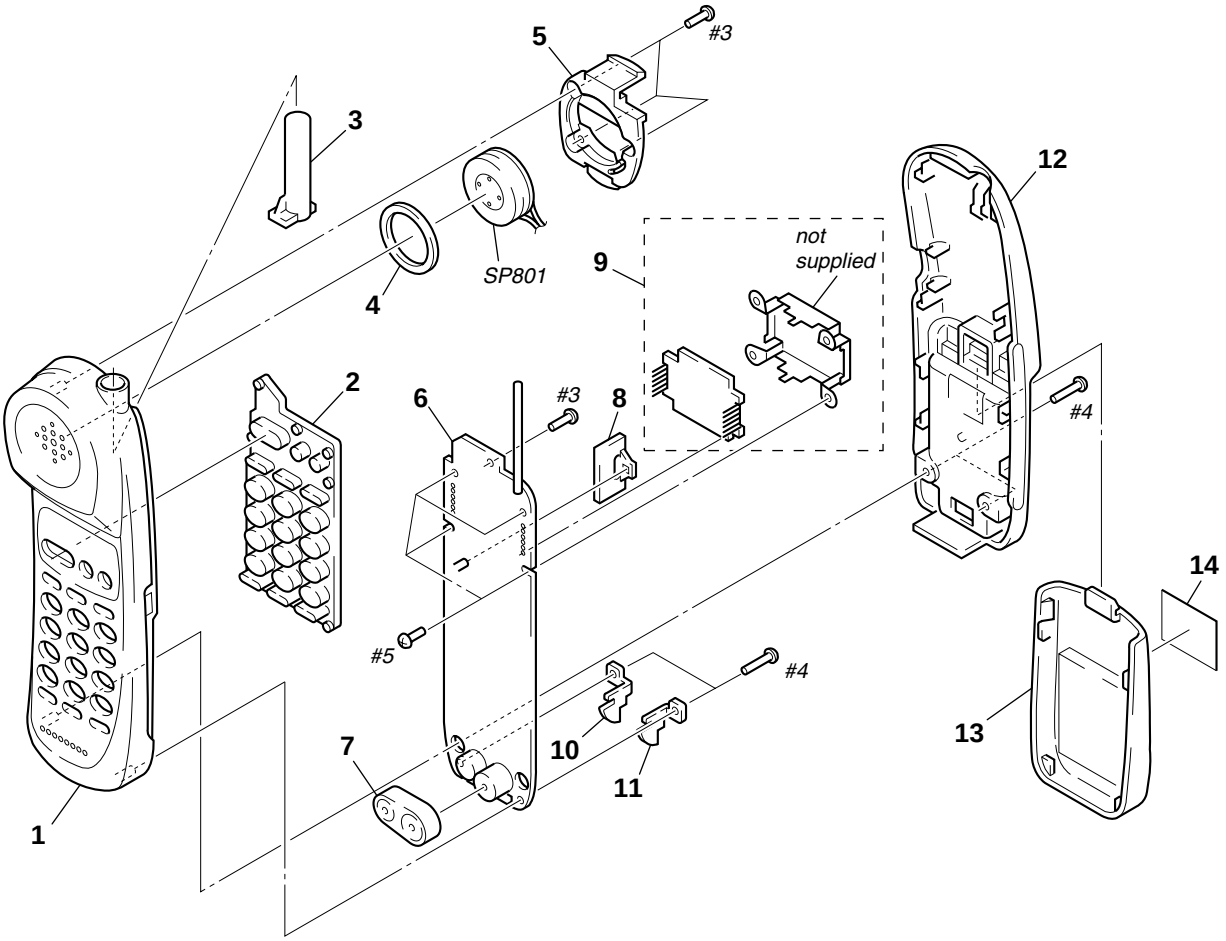
Pin No.	Pin Name	I/O	Description
1	NC	O	Not used (open)
2	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (Q615) "L": reset For several hundreds msec. after the power supply rises, "L" is input, then it changes to "H"
3, 4	MOD0, MOD1	I	Setting terminal for the CPU operational mode Fixed at "L" in this set
5	X0	I	Main system clock input terminal (3.579545 MHz)
6	X1	O	Main system clock output terminal (3.579545 MHz)
7	VCC	—	Power supply terminal (+3V)
8	X0A	I	Sub system clock input terminal Not used (fixed at "L")
9	X1A	O	Sub system clock output terminal Not used (open)
10	NC	O	Not used (open)
11	$\overline{\text{TX MUTE}}$	O	Muting control signal output to the IR3N74AN (IC602) "L": muting on At TX mode: During sending data to base unit, muting it
12	$\overline{\text{RX MUTE}}$	O	Muting control signal output to the IR3N74AN (IC602) "L": muting on At RX mode: After receiving premble bits from base unit muting it until data sent finished
13	SC	O	Main system power supply (+3V) on/off control signal output "H": main system power on
14	NC	O	Not used (open)
15, 16	TALK LED	O	LED drive signal output of the TALK/BATT LOW indicator (D607) "L": LED on
17	KEY LED	O	LED drive signal output of the key back light (D609 to D612) "L": LED on
18	NC	O	Not used (open)
19	GND	—	Ground terminal
20	NC	O	Not used (open)
21 to 25	ROW5 to ROW1	I	Key scan signal input from the key matrix
26	STPCNT	O	Wakeup control signal output terminal
27	$\overline{\text{WAKEUP}}$	I	Wakeup input terminal
28	NC	O	Not used (open)
29	$\overline{\text{BATT OFF}}$	I	Battery level detect signal input from the XC612N3328MR (IC605) "L": battery off
30 to 34	COL5 to COL1	O	Key scan signal output to the key matrix
35	$\overline{\text{BATT LOW}}$	I	Battery level detect signal input from the XC612N3328MR (IC605) "L": battery low level
36	CHG IN	I	Charge detection signal input terminal "H": charge on
37	$\overline{\text{CONV}}$	O	Speaker output circuit power supply on/off control signal output "L": speaker output circuit power on
38	RING OUT	O	Buzzer sound drive signal output terminal
39	RING VOL	O	Buzzer sound level control signal output terminal "L": low level, "H": high level
40	DATA IN	I	Receive data input terminal
41	SQ IN	I	Squelch signal (carrier detection signal) input from the MC3361CDR2 (IC601) "L": carrier present, "H": no carrier
42	TX B	O	TX system power supply on/off control signal output "L": TX system power on
43	GND	—	Ground terminal
44	DATA OUT	O	Transmit data output terminal
45	DATA EN	O	Transmit data enable signal output terminal
46	PLL CLK	O	PLL serial data transfer clock signal output to the M64884FP (IC502)
47	PLL DATA	O	PLL serial data output to the M64884FP (IC502)
48	PLL EN	O	Chip enable signal output to the M64884FP (IC502) When PLL EN goes from "L" to "H", it load data from PLL DATA

SECTION 6
EXPLODED VIEWS

NOTE:

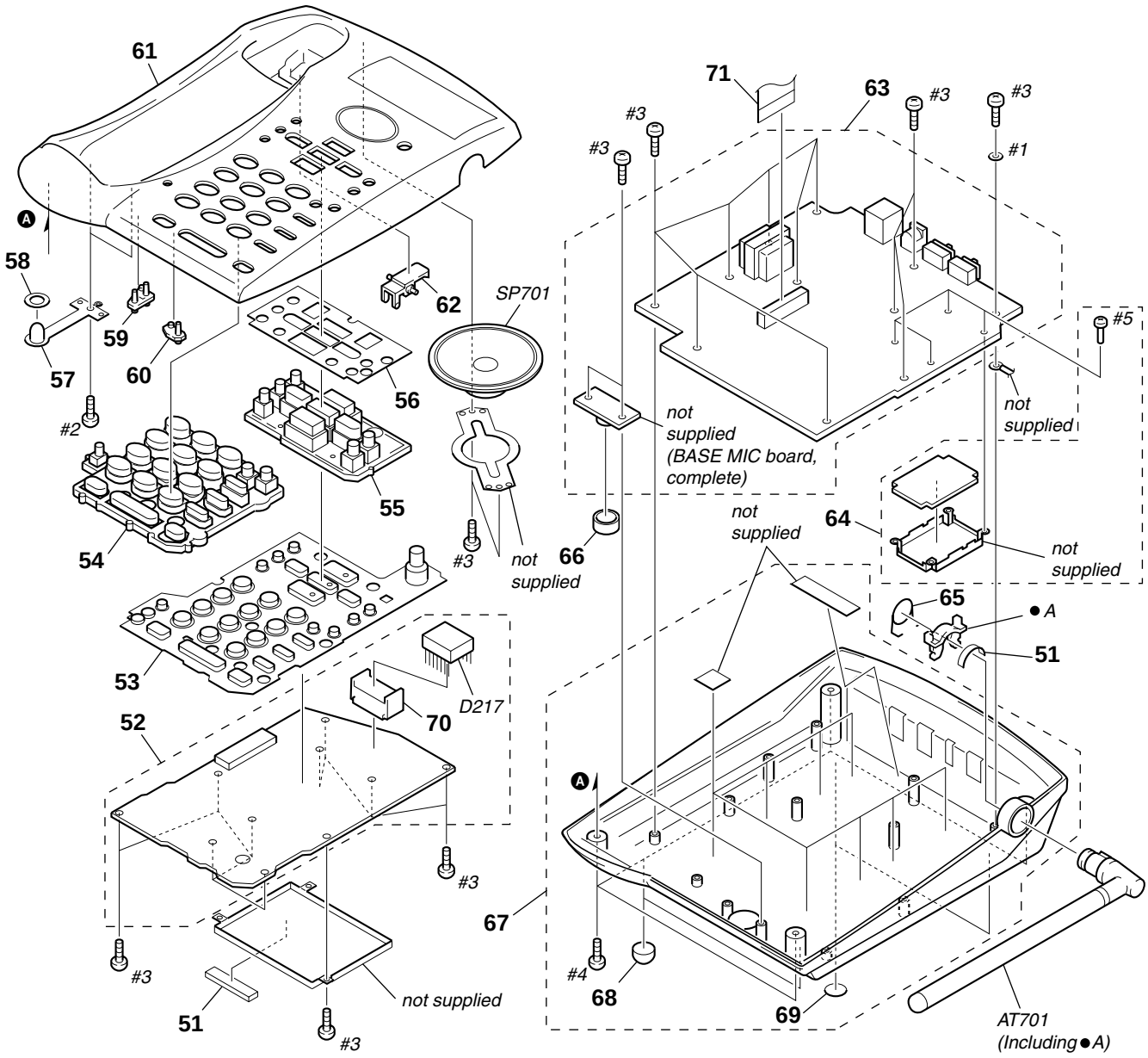
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) HANDSET SECTION



Ref. No.	Part No.	Description	Remark
1	X-3378-531-1	CABINET (FRONT) ASSY	
2	1-771-870-11	SWITCH, RUBBER KEY (HAND 12 KEY) (A946)	
2	1-771-870-21	SWITCH, RUBBER KEY (HAND 12 KEY) (A947)	
3	3-039-405-01	COVER, ANTENNA	
4	3-043-639-01	CUSHION	
* 5	3-042-448-01	HOLDER (SP)	
6	A-3672-934-A	HAND MAIN BOARD, COMPLETE	
7	3-042-449-01	HOLDER (MICROPHONE)	
8	3-042-447-01	KNOB (VR. HAND SET)	
9	A-3672-932-A	HAND RF BOARD, COMPLETE	
10	3-042-451-01	TERMINAL (L), CHARGE	
11	3-042-450-01	TERMINAL (R), CHARGE	
12	X-3378-667-1	CABINET (REAR) ASSY	
13	X-3378-532-1	LID ASSY, BATTERY CASE	
14	3-043-181-01	STICKER (ATTENTION/CHARGE) (A946)	
14	3-044-346-01	STICKER (ATTENTION/CHARGE) (A947)	
SP801	1-529-541-11	SPEAKER (2.8cm)	

(2) BASE UNIT SECTION



Ref. No.	Part No.	Description	Remark
51	3-043-638-01	CUSHION	
* 52	A-3672-931-A	BASE KEY BOARD, COMPLETE	
53	1-771-869-11	SWITCH, RUBBER KEY (BASE 12 KEY)	
54	X-3378-522-1	BUTTON (BASE FUNCTION) ASSY	
55	X-3378-521-1	BUTTON (TAD FUNCTION) ASSY	
56	3-043-591-01	WOVEN, FABRIC NON	
57	3-042-445-01	TERMINAL (BASE SET), CHARGE	
58	3-043-697-01	SPACER	
59	3-042-440-01	LENS (CHG), LED	
60	3-042-441-01	LENS (SPP), LED	
61	X-3378-519-1	CABINET (UPPER) ASSY (A946)	
61	X-3378-520-1	CABINET (UPPER) ASSY (A947)	

Ref. No.	Part No.	Description	Remark
62	3-036-336-01	HOOK	
* 63	A-3672-930-A	BASE MAIN BOARD, COMPLETE (Including BASE MIC board complete)	
64	A-3672-929-A	BASE RF BOARD, COMPLETE	
65	3-039-399-01	SPRING, TORSION	
66	3-043-646-01	HOLDER (MICROPHONE)	
67	X-3378-523-1	CABINET (LOWER) ASSY	
68	3-043-589-01	FOOT, RUBBER	
69	3-043-645-01	FOOT	
70	3-043-643-01	HOLDER (LED)	
71	1-574-161-11	WIRE, FLAT TYPE (22 CORE)	
AT701	1-754-093-11	ANTENNA	
SP701	1-505-802-11	SPEAKER (5.7cm)	

BASE KEY

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA. . : µA. . uPA. . : µPA. .
  uPB. . : µPB. . uPC. . : µPC. .
  uPD. . : µPD. .
- CAPACITORS
  uF: µF
- COILS
  uH: µH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3672-931-A	BASE KEY BOARD, COMPLETE			
		**********			
	3-043-643-01	HOLDER (LED)			
		< CAPACITOR >			
C201	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C202	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C203	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C204	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C205	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C206	1-124-779-00	TANTALUM CHIP	10uF	20%	16V
C207	1-124-779-00	TANTALUM CHIP	10uF	20%	16V
C208	1-162-979-11	CERAMIC CHIP	0.0027uF	10%	50V
C209	1-126-935-11	ELECT	470uF	20%	6.3V
C210	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C211	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C212	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C213	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C214	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C215	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C216	1-126-154-11	ELECT	47uF	20%	6.3V
C217	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C218	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C219	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C220	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C221	1-126-154-11	ELECT	47uF	20%	6.3V
C222	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C223	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C224	1-126-154-11	ELECT	47uF	20%	6.3V
C225	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C226	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C227	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C228	1-162-963-11	CERAMIC CHIP	680PF	10%	50V
C229	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C230	1-117-370-11	CERAMIC CHIP	10uF		10V
C231	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C232	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C233	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C234	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C236	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C237	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C238	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C239	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C240	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C241	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C242	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C243	1-124-779-00	TANTALUM CHIP	10uF	20%	16V
C244	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C245	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C246	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C251	1-126-916-11	ELECT	1000uF	20%	6.3V
C252	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C253	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C254	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C255	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C257	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C258	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C259	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C260	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C270	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C271	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C272	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< DIODE >			
D201	8-719-910-68	DIODE	HZ6C2L		
D202	8-719-055-76	DIODE	1N4148		
D203	8-719-046-60	DIODE	HZK6C		
D204	8-719-910-68	DIODE	HZ6C2L		
D205	8-719-976-19	DIODE	RLS-4148		
D208	8-719-976-19	DIODE	RLS-4148		
D209	8-719-053-09	DIODE	SML-310VTT86 (CHARGE)		
D210	8-719-053-09	DIODE	SML-310VTT86 (INTERCOM)		
D211	8-719-053-09	DIODE	SML-310VTT86 (SPEAKERPHONE)		
D212	8-719-063-83	DIODE	SML-510MWT86 (IN USE)		
D213	8-719-079-32	DIODE	LTL-94PURK-TA (ANSWER ON/OFF)		
D214	8-719-074-30	DIODE	SML-310LTT86 (MAIL BOX1)		
D215	8-719-074-30	DIODE	SML-310LTT86 (2)		
D216	8-719-074-30	DIODE	SML-310LTT86 (3)		
D217	8-719-078-00	DIODE	LTD-482P-03 (MESSAGE COUNTER)		
D218	8-719-017-42	DIODE	HSM88WA		
D219	8-719-976-19	DIODE	RLS-4148		
D220	8-719-972-14	DIODE	HZK6BL		
		< IC/SAW FILTER >			
IC201	8-759-463-98	IC	MC34119DR2		
IC202	8-759-668-82	IC	D16559UAC11AQC		

Ref. No.	Part No.	Description			Remark
IC203	8-759-583-75	IC KM29W040AT			
IC204	8-759-235-99	IC TC74HC132AF (EL)			
IC206	1-781-631-11	FILTER, SAW			
IC207	8-759-668-12	IC TK11237BMCL			
		< CONNECTOR >			
J201	1-774-288-11	CONNECTOR, FFC/FPC 22P			
		< RESISTOR >			
JC231	1-216-864-11	METAL CHIP	0	5%	1/16W
JC265	1-216-864-11	METAL CHIP	0	5%	1/16W
JC293	1-216-864-11	METAL CHIP	0	5%	1/16W
JC418	1-216-296-00	SHORT	0		
JC419	1-216-296-00	SHORT	0		
JC423	1-216-864-11	METAL CHIP	0	5%	1/16W
JC424	1-216-296-00	SHORT	0		
JC425	1-216-296-00	SHORT	0		
JC433	1-216-864-11	METAL CHIP	0	5%	1/16W
JC436	1-216-296-00	SHORT	0		
JC437	1-216-864-11	METAL CHIP	0	5%	1/16W
JC439	1-216-296-00	SHORT	0		
JC442	1-216-864-11	METAL CHIP	0	5%	1/16W
JC443	1-216-864-11	METAL CHIP	0	5%	1/16W
JC445	1-216-864-11	METAL CHIP	0	5%	1/16W
JC446	1-216-864-11	METAL CHIP	0	5%	1/16W
JC447	1-216-864-11	METAL CHIP	0	5%	1/16W
		< FERRITE BEAD >			
L201	1-414-760-21	FERRITE	0uH		
		< TRANSISTOR >			
Q201	8-729-212-02	TRANSISTOR	2SC2120-Y		
Q202	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q204	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R201	1-216-845-11	METAL CHIP	100K	5%	1/16W
R202	1-216-833-11	RES-CHIP	10K	5%	1/16W
R203	1-216-833-11	RES-CHIP	10K	5%	1/16W
R205	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R206	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R207	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R208	1-216-837-11	METAL CHIP	22K	5%	1/16W
R209	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R210	1-216-833-11	RES-CHIP	10K	5%	1/16W
R211	1-216-837-11	METAL CHIP	22K	5%	1/16W
R212	1-216-821-11	METAL CHIP	1K	5%	1/16W
R213	1-216-815-11	METAL CHIP	330	5%	1/16W
R214	1-216-837-11	METAL CHIP	22K	5%	1/16W
R215	1-216-845-11	METAL CHIP	100K	5%	1/16W
R216	1-216-821-11	METAL CHIP	1K	5%	1/16W
R217	1-216-821-11	METAL CHIP	1K	5%	1/16W
R218	1-216-821-11	METAL CHIP	1K	5%	1/16W
R219	1-216-821-11	METAL CHIP	1K	5%	1/16W
R220	1-216-821-11	METAL CHIP	1K	5%	1/16W
R221	1-216-821-11	METAL CHIP	1K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R222	1-216-821-11	METAL CHIP	1K	5%	1/16W
R223	1-216-821-11	METAL CHIP	1K	5%	1/16W
R224	1-216-821-11	METAL CHIP	1K	5%	1/16W
R225	1-216-821-11	METAL CHIP	1K	5%	1/16W
R226	1-216-821-11	METAL CHIP	1K	5%	1/16W
R227	1-216-821-11	METAL CHIP	1K	5%	1/16W
R228	1-216-821-11	METAL CHIP	1K	5%	1/16W
R229	1-216-821-11	METAL CHIP	1K	5%	1/16W
R230	1-216-821-11	METAL CHIP	1K	5%	1/16W
R232	1-216-821-11	METAL CHIP	1K	5%	1/16W
R233	1-216-821-11	METAL CHIP	1K	5%	1/16W
R234	1-216-821-11	METAL CHIP	1K	5%	1/16W
R235	1-216-821-11	METAL CHIP	1K	5%	1/16W
R236	1-216-821-11	METAL CHIP	1K	5%	1/16W
R237	1-216-821-11	METAL CHIP	1K	5%	1/16W
R238	1-216-821-11	METAL CHIP	1K	5%	1/16W
R239	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R240	1-216-852-11	METAL CHIP	390K	5%	1/16W
R241	1-216-852-11	METAL CHIP	390K	5%	1/16W
R242	1-216-815-11	METAL CHIP	330	5%	1/16W
R243	1-216-820-11	METAL CHIP	820	5%	1/16W
R244	1-216-821-11	METAL CHIP	1K	5%	1/16W
R245	1-216-841-11	METAL CHIP	47K	5%	1/16W
R246	1-216-841-11	METAL CHIP	47K	5%	1/16W
R247	1-216-841-11	METAL CHIP	47K	5%	1/16W
R248	1-216-833-11	RES-CHIP	10K	5%	1/16W
R249	1-216-821-11	METAL CHIP	1K	5%	1/16W
R250	1-216-841-11	METAL CHIP	47K	5%	1/16W
R251	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R252	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R253	1-216-820-11	METAL CHIP	820	5%	1/16W
R254	1-216-820-11	METAL CHIP	820	5%	1/16W
R255	1-216-821-11	METAL CHIP	1K	5%	1/16W
R256	1-216-821-11	METAL CHIP	1K	5%	1/16W
R257	1-216-841-11	METAL CHIP	47K	5%	1/16W
R258	1-216-841-11	METAL CHIP	47K	5%	1/16W
R259	1-216-841-11	METAL CHIP	47K	5%	1/16W
R260	1-216-841-11	METAL CHIP	47K	5%	1/16W
R261	1-216-844-11	METAL CHIP	82K	5%	1/16W
R262	1-216-849-11	METAL CHIP	220K	5%	1/16W
R263	1-216-841-11	METAL CHIP	47K	5%	1/16W
R264	1-216-841-11	METAL CHIP	47K	5%	1/16W
R266	1-216-821-11	METAL CHIP	1K	5%	1/16W
R267	1-216-821-11	METAL CHIP	1K	5%	1/16W
R268	1-216-821-11	METAL CHIP	1K	5%	1/16W
R269	1-216-821-11	METAL CHIP	1K	5%	1/16W
R270	1-216-821-11	METAL CHIP	1K	5%	1/16W
R271	1-216-821-11	METAL CHIP	1K	5%	1/16W
R272	1-216-821-11	METAL CHIP	1K	5%	1/16W
R273	1-216-821-11	METAL CHIP	1K	5%	1/16W
R274	1-216-821-11	METAL CHIP	1K	5%	1/16W
R276	1-216-821-11	METAL CHIP	1K	5%	1/16W
R277	1-216-821-11	METAL CHIP	1K	5%	1/16W
R279	1-216-821-11	METAL CHIP	1K	5%	1/16W
R280	1-216-821-11	METAL CHIP	1K	5%	1/16W
R281	1-216-821-11	METAL CHIP	1K	5%	1/16W
R282	1-216-821-11	METAL CHIP	1K	5%	1/16W
R283	1-216-821-11	METAL CHIP	1K	5%	1/16W

BASE KEY | BASE MAIN

Ref. No.	Part No.	Description			Remark
R284	1-216-821-11	METAL CHIP	1K	5%	1/16W
R285	1-216-821-11	METAL CHIP	1K	5%	1/16W
R286	1-216-821-11	METAL CHIP	1K	5%	1/16W
R287	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R288	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R289	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R290	1-216-849-11	METAL CHIP	220K	5%	1/16W
R291	1-216-821-11	METAL CHIP	1K	5%	1/16W
R294	1-216-854-11	METAL CHIP	560K	5%	1/16W
R295	1-216-845-11	METAL CHIP	100K	5%	1/16W
R296	1-216-841-11	METAL CHIP	47K	5%	1/16W
R297	1-216-841-11	METAL CHIP	47K	5%	1/16W
R298	1-216-841-11	METAL CHIP	47K	5%	1/16W
R299	1-216-841-11	METAL CHIP	47K	5%	1/16W
R401	1-216-841-11	METAL CHIP	47K	5%	1/16W
R402	1-216-841-11	METAL CHIP	47K	5%	1/16W
R403	1-216-841-11	METAL CHIP	47K	5%	1/16W
R404	1-216-841-11	METAL CHIP	47K	5%	1/16W
R407	1-216-852-11	METAL CHIP	390K	5%	1/16W
R408	1-216-852-11	METAL CHIP	390K	5%	1/16W
R409	1-216-841-11	METAL CHIP	47K	5%	1/16W
R410	1-216-841-11	METAL CHIP	47K	5%	1/16W
R411	1-216-841-11	METAL CHIP	47K	5%	1/16W
R412	1-216-838-11	METAL CHIP	27K	5%	1/16W
R413	1-216-841-11	METAL CHIP	47K	5%	1/16W
R415	1-216-821-11	METAL CHIP	1K	5%	1/16W
R420	1-216-158-00	RES-CHIP	22	5%	1/8W
R421	1-216-809-11	METAL CHIP	100	5%	1/16W
R422	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R426	1-216-841-11	METAL CHIP	47K	5%	1/16W
R427	1-216-833-11	RES-CHIP	10K	5%	1/16W
R428	1-216-844-11	METAL CHIP	82K	5%	1/16W
R432	1-216-809-11	METAL CHIP	100	5%	1/16W
		< VIBRATOR >			
X201	1-781-805-11	VIBRATOR, CRYSTAL (4.081408MHz)			

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*	A-3672-930-A	BASE MAIN BOARD, COMPLETE				
		**********				
		(Including BASE MIC board, complete)				
		< CAPACITOR/VARISTOR >				
C1	1-164-230-11	CERAMIC CHIP	220PF	5%	50V	
C2	1-124-257-00	ELECT	2.2uF	20%	50V	
C3	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C4	1-162-925-11	CERAMIC CHIP	68PF	5%	50V	
C5	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	
C6	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C7	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C8	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V	
C9	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C11	1-165-128-11	CERAMIC CHIP	0.22uF		16V	
C12	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V	
C13	1-104-664-11	ELECT	47uF	20%	10V	
C14	1-126-960-11	ELECT	1uF	20%	50V	
C15	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C16	1-162-926-11	CERAMIC CHIP	82PF	5%	50V	
C17	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C18	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C19	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C20	1-806-916-11	VARISTOR, CERAMIC				
C21	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C22	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C23	1-162-921-11	CERAMIC CHIP	33PF	5%	50V	
C24	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V	
C25	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C26	1-162-917-11	CERAMIC CHIP	15PF	5%	50V	
C27	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C28	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V	
C29	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C30	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C31	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C32	1-126-163-11	ELECT	4.7uF	20%	50V	
C33	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C34	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C35	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C36	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V	
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V	
C38	1-126-960-11	ELECT	1uF	20%	50V	
C39	1-104-664-11	ELECT	47uF	20%	25V	
C40	1-162-959-11	CERAMIC CHIP	330PF	5%	50V	
C41	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C42	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V	
C43	1-164-733-11	CERAMIC CHIP	820PF	10%	50V	
C44	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V	
C45	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V	
C46	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V	
C47	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V	
C48	1-104-665-11	ELECT	100uF	20%	10V	
C49	1-162-318-11	CERAMIC	0.001uF	10%	500V	
C50	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C51	1-137-479-11	MYLAR	1uF	5%	250V	
C52	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C53	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C54	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C55	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C56	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C57	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C58	1-127-573-11	CERAMIC CHIP	1uF	10%	16V	
C59	1-162-979-11	CERAMIC CHIP	0.0027uF	10%	50V	
C60	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V	
C61	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C62	1-164-217-11	CERAMIC CHIP	150PF	5%	50V	
C63	1-104-664-11	ELECT	47uF	20%	10V	
C64	1-127-573-11	CERAMIC CHIP	1uF	10%	16V	
C65	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C66	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V	
C67	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C68	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V	
C69	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C70	1-126-960-11	ELECT	1uF	20%	50V	
C71	1-104-665-11	ELECT	100uF	20%	25V	
C72	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C73	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C74	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	

Ref. No.	Part No.	Description			Remark
C75	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C76	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C77	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C78	1-104-665-11	ELECT	100uF	20%	10V
C79	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C80	1-126-924-11	ELECT	330uF	20%	6.3V
C81	1-104-665-11	ELECT	100uF	20%	10V
C82	1-126-924-11	ELECT	330uF	20%	6.3V
C83	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C84	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C85	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C86	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C88	1-126-768-11	ELECT	2200uF	20%	16V
C89	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C90	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C91	1-126-934-11	ELECT	220uF	20%	10V
C92	1-126-934-11	ELECT	220uF	20%	16V
C93	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C94	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C95	1-104-664-11	ELECT	47uF	20%	25V
C97	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C98	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C99	1-126-964-11	ELECT	10uF	20%	50V
C101	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C102	1-126-934-11	ELECT	220uF	20%	16V
C103	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C104	1-126-924-11	ELECT	330uF	20%	10V
C106	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C107	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V
C110	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C113	1-126-924-11	ELECT	330uF	20%	10V
C114	1-126-924-11	ELECT	330uF	20%	10V
C115	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C119	1-126-767-11	ELECT	1000uF	20%	16V
C120	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C121	1-162-977-11	CERAMIC CHIP	0.0018uF	10%	50V
C122	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C123	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C124	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C125	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C126	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
		< TRIMMER >			
CT1	1-141-373-11	CAP, TRIMMER 10PF			
		< DIODE >			
D1	8-719-055-76	DIODE 1N4148			
D2	8-719-055-76	DIODE 1N4148			
D3	8-719-055-76	DIODE 1N4148			
D4	8-719-910-75	DIODE HZ7B2L			
D5	8-719-055-76	DIODE 1N4148			
D6	8-719-055-76	DIODE 1N4148			
D7	8-719-055-76	DIODE 1N4148			
D8	8-719-915-61	DIODE HZ3.3EB1			
D9	8-719-055-76	DIODE 1N4148			
D10	8-719-055-76	DIODE 1N4148			

Ref. No.	Part No.	Description			Remark
D11	8-719-055-76	DIODE 1N4148			
D12	8-719-109-71	DIODE RD3.9ES-B1			
D13	8-719-055-76	DIODE 1N4148			
D14	8-719-055-76	DIODE 1N4148			
D15	8-719-910-68	DIODE HZ6C2L			
D16	8-719-055-76	DIODE 1N4148			
D17	8-719-055-76	DIODE 1N4148			
D18	8-719-910-65	DIODE HZ6B2L			
D19	8-719-055-76	DIODE 1N4148			
D21	8-719-910-68	DIODE HZ6C2L			
D22	8-719-055-76	DIODE 1N4148			
D23	8-719-055-76	DIODE 1N4148			
		< CERAMIC FILTER >			
FT1	1-760-143-42	FILTER, CERAMIC			
FT2	1-527-569-00	FILTER, CERAMIC			
		< IC/PHOTO COUPLER >			
IC1	8-759-089-92	IC IR3N74AN			
IC2	8-719-018-90	PHOTO COUPLER LTV817-D			
IC3	8-759-375-39	IC MC3361CD			
IC4	8-759-510-71	IC BA10358F-E2			
IC5	8-719-018-90	PHOTO COUPLER LTV817-D			
IC6	8-759-510-71	IC BA10358F-E2			
IC7	8-759-042-02	IC S80743AL-A7-S			
IC8	8-759-666-27	IC MB89174APF-G-288-BND			
		< JACK/CONNECTOR >			
J1	1-766-250-21	JACK, MODULAR (2C) 6P (LINE)			
J2	1-580-727-11	JACK (DC IN 9V)			
J3	1-770-650-11	CONNECTOR, FFC/FPC 22P			
		< RESISTOR >			
JC3	1-216-864-11	METAL CHIP	0	5%	1/16W
JC117	1-216-864-11	METAL CHIP	0	5%	1/16W
JC129	1-216-864-11	METAL CHIP	0	5%	1/16W
JC148	1-216-296-00	SHORT	0		
JC149	1-216-864-11	METAL CHIP	0	5%	1/16W
JC151	1-216-296-00	SHORT	0		
		< COIL >			
L1	1-412-058-11	INDUCTOR CHIP	10uH		
L2	1-412-056-11	INDUCTOR CHIP	4.7uH		
L3	1-419-289-11	COIL, OSC			
L4	1-412-056-11	INDUCTOR CHIP	4.7uH		
L5	1-403-658-31	INDUCTOR	8.2nH		
L6	1-410-324-11	INDUCTOR	4.7uH		
L7	1-410-324-11	INDUCTOR	4.7uH		
		< TRANSISTOR >			
Q1	8-729-200-87	TRANSISTOR	2SC2714-Y		
Q2	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q3	8-729-216-22	TRANSISTOR	2SA1162-G		
Q4	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q5	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q6	8-729-120-28	TRANSISTOR	2SC1623-L5L6		

BASE MAIN

Ref. No.	Part No.	Description			Remark
Q8	8-729-216-22	TRANSISTOR	2SA1162-G		
Q9	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q10	8-729-216-22	TRANSISTOR	2SA1162-G		
Q11	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q12	8-729-216-22	TRANSISTOR	2SA1162-G		
Q13	8-729-050-08	TRANSISTOR	2SD471-T		
Q14	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q15	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q16	8-729-212-02	TRANSISTOR	2SC2120-Y		
Q17	8-729-050-08	TRANSISTOR	2SD471-T		
Q18	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q19	8-729-050-08	TRANSISTOR	2SD471-T		
Q20	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q21	8-729-050-08	TRANSISTOR	2SD471-T		
Q22	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q23	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R1	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R2	1-216-849-11	METAL CHIP	220K	5%	1/16W
R4	1-216-815-11	METAL CHIP	330	5%	1/16W
R5	1-216-817-11	METAL CHIP	470	5%	1/16W
R6	1-216-836-11	METAL CHIP	18K	5%	1/16W
R7	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R8	1-216-853-11	METAL CHIP	470K	5%	1/16W
R9	1-216-833-11	RES-CHIP	10K	5%	1/16W
R10	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R11	1-216-853-11	METAL CHIP	470K	5%	1/16W
R12	1-216-813-11	METAL CHIP	220	5%	1/16W
R13	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R14	1-216-845-11	METAL CHIP	100K	5%	1/16W
R15	1-216-833-11	RES-CHIP	10K	5%	1/16W
R16	1-216-845-11	METAL CHIP	100K	5%	1/16W
R17	1-216-841-11	METAL CHIP	47K	5%	1/16W
R18	1-216-845-11	METAL CHIP	100K	5%	1/16W
R19	1-216-853-11	METAL CHIP	470K	5%	1/16W
R20	1-216-851-11	METAL CHIP	330K	5%	1/16W
R21	1-216-833-11	RES-CHIP	10K	5%	1/16W
R22	1-216-841-11	RES-CHIP	47K	5%	1/16W
R23	1-216-835-11	METAL CHIP	15K	5%	1/16W
R24	1-216-843-11	METAL CHIP	68K	5%	1/16W
R25	1-216-818-11	METAL CHIP	560	5%	1/16W
R26	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R27	1-216-843-11	METAL CHIP	68K	5%	1/16W
R28	1-216-819-11	METAL CHIP	680	5%	1/16W
R29	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R30	1-249-489-11	CARBON	22K	5%	1/2W
R31	1-215-864-00	METAL OXIDE	150	5%	1W F
R32	1-216-833-11	RES-CHIP	10K	5%	1/16W
R33	1-216-821-11	METAL CHIP	1K	5%	1/16W
R34	1-216-843-11	METAL CHIP	68K	5%	1/16W
R35	1-249-441-11	CARBON	100K	5%	1/4W
R36	1-216-849-11	METAL CHIP	220K	5%	1/16W
R37	1-216-845-11	METAL CHIP	100K	5%	1/16W
R38	1-216-848-11	METAL CHIP	180K	5%	1/16W
R39	1-216-845-11	METAL CHIP	100K	5%	1/16W
R41	1-216-848-11	METAL CHIP	180K	5%	1/16W
R43	1-216-091-00	RES-CHIP	56K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R44	1-216-841-11	METAL CHIP	47K	5%	1/16W
R45	1-216-833-11	RES-CHIP	10K	5%	1/16W
R46	1-216-021-00	METAL CHIP	68	5%	1/10W
R47	1-216-848-11	METAL CHIP	180K	5%	1/16W
R48	1-216-816-11	METAL CHIP	390	5%	1/16W
R49	1-216-839-11	METAL CHIP	33K	5%	1/16W
R50	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R51	1-247-807-31	CARBON	100	5%	1/4W
R52	1-216-186-00	RES-CHIP	330	5%	1/8W
R53	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R55	1-216-816-11	METAL CHIP	390	5%	1/16W
R56	1-247-881-00	CARBON	120K	5%	1/4W
R57	1-249-417-11	CARBON	1K	5%	1/4W
R58	1-216-833-11	RES-CHIP	10K	5%	1/16W
R59	1-216-833-11	RES-CHIP	10K	5%	1/16W
R60	1-216-841-11	METAL CHIP	47K	5%	1/16W
R61	1-216-821-11	METAL CHIP	1K	5%	1/16W
R62	1-216-841-11	METAL CHIP	47K	5%	1/16W
R63	1-216-821-11	METAL CHIP	1K	5%	1/16W
R64	1-216-821-11	METAL CHIP	1K	5%	1/16W
R65	1-216-821-11	METAL CHIP	1K	5%	1/16W
R66	1-216-821-11	METAL CHIP	1K	5%	1/16W
R67	1-216-821-11	METAL CHIP	1K	5%	1/16W
R68	1-216-821-11	METAL CHIP	1K	5%	1/16W
R69	1-216-821-11	METAL CHIP	1K	5%	1/16W
R70	1-216-821-11	METAL CHIP	1K	5%	1/16W
R71	1-216-821-11	METAL CHIP	1K	5%	1/16W
R72	1-216-821-11	METAL CHIP	1K	5%	1/16W
R73	1-216-841-11	METAL CHIP	47K	5%	1/16W
R74	1-216-841-11	METAL CHIP	47K	5%	1/16W
R75	1-216-849-11	METAL CHIP	220K	5%	1/16W
R76	1-216-852-11	METAL CHIP	390K	5%	1/16W
R77	1-216-849-11	METAL CHIP	220K	5%	1/16W
R78	1-216-833-11	RES-CHIP	10K	5%	1/16W
R79	1-216-847-11	METAL CHIP	150K	5%	1/16W
R80	1-216-833-11	RES-CHIP	10K	5%	1/16W
R81	1-216-833-11	RES-CHIP	10K	5%	1/16W
R82	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R83	1-215-869-11	METAL OXIDE	1K	5%	1W F
R84	1-216-835-11	METAL CHIP	15K	5%	1/16W
R85	1-216-833-11	RES-CHIP	10K	5%	1/16W
R86	1-216-833-11	RES-CHIP	10K	5%	1/16W
R87	1-216-833-11	RES-CHIP	10K	5%	1/16W
R88	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R89	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R90	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R91	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R92	1-216-069-11	RES-CHIP	6.8K	5%	1/10W
R93	1-216-043-00	RES-CHIP	560	5%	1/10W
R94	1-216-845-11	METAL CHIP	100K	5%	1/16W
R95	1-216-846-11	METAL CHIP	120K	5%	1/16W
R96	1-216-821-11	METAL CHIP	1K	5%	1/16W
R97	1-216-821-11	METAL CHIP	1K	5%	1/16W
R98	1-216-821-11	METAL CHIP	1K	5%	1/16W
R99	1-216-821-11	METAL CHIP	1K	5%	1/16W
R100	1-249-437-11	CARBON	47K	5%	1/4W
R101	1-216-841-11	METAL CHIP	47K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R102	1-216-851-11	METAL CHIP	330K	5%	1/16W
R103	1-216-845-11	METAL CHIP	100K	5%	1/16W
R104	1-216-833-11	RES-CHIP	10K	5%	1/16W
R105	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R106	1-216-833-11	RES-CHIP	10K	5%	1/16W
R107	1-216-846-11	METAL CHIP	120K	5%	1/16W
R108	1-216-011-00	METAL CHIP	27	5%	1/10W
R109	1-216-013-00	METAL CHIP	33	5%	1/10W
R110	1-216-178-00	RES-CHIP	150	5%	1/8W
R111	1-247-747-11	CARBON	470	5%	1/2W
R112	1-216-198-00	RES-CHIP	1K	5%	1/8W
R113	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-821-11	METAL CHIP	1K	5%	1/16W
R116	1-216-821-11	METAL CHIP	1K	5%	1/16W
R118	1-216-029-00	METAL CHIP	150	5%	1/10W
R119	1-216-029-00	METAL CHIP	150	5%	1/10W
R120	1-247-727-11	CARBON	10	5%	1/2W
R121	1-216-801-11	METAL CHIP	22	5%	1/16W
R122	1-216-821-11	METAL CHIP	1K	5%	1/16W
R123	1-216-801-11	METAL CHIP	22	5%	1/16W
R124	1-216-853-11	METAL CHIP	470K	5%	1/16W
R125	1-216-845-11	METAL CHIP	100K	5%	1/16W
R126	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R127	1-216-821-11	METAL CHIP	1K	5%	1/16W
R128	1-216-821-11	METAL CHIP	1K	5%	1/16W
R130	1-216-833-11	RES-CHIP	10K	5%	1/16W
R132	1-260-302-51	CARBON	6.8	5%	1/2W
R133	1-216-178-00	RES-CHIP	150	5%	1/8W
R134	1-216-178-00	RES-CHIP	150	5%	1/8W
R136	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R137	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R138	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R139	1-216-821-11	METAL CHIP	1K	5%	1/16W
R140	1-216-821-11	METAL CHIP	1K	5%	1/16W
R141	1-216-837-11	METAL CHIP	22K	5%	1/16W
R142	1-216-178-00	RES-CHIP	150	5%	1/8W
R143	1-216-854-11	METAL CHIP	560K	5%	1/16W
R144	1-216-813-11	METAL CHIP	220	5%	1/16W
R145	1-216-821-11	METAL CHIP	1K	5%	1/16W
R146	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R147	1-216-855-11	METAL CHIP	680K	5%	1/16W
R152	1-216-178-00	RES-CHIP	150	5%	1/8W
R153	1-216-845-11	METAL CHIP	100K	5%	1/16W
R154	1-216-846-11	METAL CHIP	120K	5%	1/16W
R155	1-216-841-11	METAL CHIP	47K	5%	1/16W
R156	1-216-845-11	METAL CHIP	100K	5%	1/16W
R157	1-216-845-11	METAL CHIP	100K	5%	1/16W
R158	1-216-837-11	METAL CHIP	22K	5%	1/16W
R159	1-216-837-11	METAL CHIP	22K	5%	1/16W
R160	1-216-845-11	METAL CHIP	100K	5%	1/16W
R162	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R163	1-216-845-11	METAL CHIP	100K	5%	1/16W
R164	1-216-851-11	METAL CHIP	330K	5%	1/16W
R165	1-216-845-11	METAL CHIP	100K	5%	1/16W
R166	1-216-845-11	METAL CHIP	100K	5%	1/16W
R167	1-216-845-11	METAL CHIP	100K	5%	1/16W
R168	1-216-845-11	METAL CHIP	100K	5%	1/16W
R169	1-216-821-11	METAL CHIP	1K	5%	1/16W
R170	1-216-845-11	METAL CHIP	100K	5%	1/16W
R171	1-216-843-11	METAL CHIP	68K	5%	1/16W
R172	1-216-069-11	RES-CHIP	6.8K	5%	1/10W
R173	1-216-827-11	RES-CHIP	3.3K	5%	1/16W
		< RELAY >			
RL1	1-515-693-11	RELAY			
		< VARIABLE RESISTOR >			
RT1	1-228-998-00	RES, ADJ, METAL 220K			
RT2	1-228-997-00	RES, ADJ, METAL 100K			
RT3	1-228-995-00	RES, ADJ, METAL 22K			
		< SWITCH >			
S1	1-692-955-11	SWITCH, SLIDE (1-1-2) (DIAL MODE)			
S2	1-762-257-11	SWITCH, SLIDE (RINGER)			
		< TRANSFORMER >			
T1	1-435-135-11	TRANSFORMER, LINE			
		< VIBRATOR >			
X1	1-781-724-11	VIBRATOR, CRYSTAL (10.1MHz)			
X2	1-579-768-11	VIBRATOR, CRYSTAL (3.583MHz)			
**********					
		BASE MIC BOARD			
		**********			
		(Included in BASE MAIN board, complete)			
		< CAPACITOR >			
C105	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
		< MICROPHONE >			
MC1	1-542-118-41	MICROPHONE, ELECTRET CONDENSER (MIC)			
**********					
	A-3672-929-A	BASE RF BOARD, COMPLETE			
		**********			
	7-621-771-06	SCREW +B 2X5			
		< CAPACITOR >			
C301	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C302	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C303	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C304	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C305	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C306	1-162-904-11	CERAMIC CHIP	0.5PF	0.25PF	50V
C307	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C308	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C309	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C310	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C311	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C314	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C315	1-162-921-11	CERAMIC CHIP	33PF	5%	50V

BASE RF

Ref. No.	Part No.	Description			Remark
C319	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C320	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C321	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C323	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C324	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C325	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C326	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C327	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C333	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C334	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C335	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C336	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C337	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C338	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C339	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C340	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C341	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C342	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C343	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C344	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C345	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C346	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C347	1-162-914-11	CERAMIC CHIP	9PF	0.5PF	50V
C348	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C349	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C350	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C351	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C353	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C357	1-135-238-21	TANTALUM CHIP	6.8uF	20%	10V
C358	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C360	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C362	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C363	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C364	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C365	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C366	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C367	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C368	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C369	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C370	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C371	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C372	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C373	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C374	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C375	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C376	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C378	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C379	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C380	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C381	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C382	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C383	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C386	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C390	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C397	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C398	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C399	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D302	8-719-076-89	DIODE 1SV270 (TPH3)			
D303	8-719-076-90	DIODE 1SV314			
		< FILTER >			
FT301	(Not supplied)				
		< IC >			
IC302	8-759-641-06	IC M64884FP-C60J			
		< RESISTOR >			
JC316	1-216-864-11	METAL CHIP	0	5%	1/16W
JC319	1-216-864-11	METAL CHIP	0	5%	1/16W
JC348	1-216-864-11	METAL CHIP	0	5%	1/16W
		< COIL >			
L301	1-403-659-11	INDUCTOR	10nH		
L302	1-403-657-11	INDUCTOR	6.8nH		
L303	1-403-658-31	INDUCTOR	8.2nH		
L304	1-412-987-31	INDUCTOR	4.7uH		
L306	1-403-660-11	INDUCTOR	12nH		
L307	1-403-657-11	INDUCTOR	6.8nH		
L309	1-403-666-11	INDUCTOR	39nH		
L310	1-403-657-11	INDUCTOR	6.8nH		
		< TRANSISTOR >			
Q301	8-729-050-34	TRANSISTOR	2SC4095-R47T1		
Q302	8-729-216-22	TRANSISTOR	2SA1162-G		
Q306	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
Q307	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
Q312	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
		< RESISTOR >			
R302	1-216-841-11	METAL CHIP	47K	5%	1/16W
R303	1-216-795-11	RES-CHIP	6.8	5%	1/16W
R304	1-216-813-11	METAL CHIP	220	5%	1/16W
R305	1-216-833-11	RES-CHIP	10K	5%	1/16W
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W
R307	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R309	1-216-833-11	RES-CHIP	10K	5%	1/16W
R317	1-216-816-11	METAL CHIP	390	5%	1/16W
R320	1-216-845-11	METAL CHIP	100K	5%	1/16W
R321	1-216-833-11	RES-CHIP	10K	5%	1/16W
R322	1-216-803-11	METAL CHIP	33	5%	1/16W
R326	1-216-833-11	RES-CHIP	10K	5%	1/16W
R327	1-216-821-11	METAL CHIP	1K	5%	1/16W
R328	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R329	1-216-816-11	METAL CHIP	390	5%	1/16W
R330	1-216-797-11	METAL CHIP	10	5%	1/16W
R331	1-216-802-11	RES-CHIP	27	5%	1/16W
R332	1-216-821-11	METAL CHIP	1K	5%	1/16W
R333	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R339	1-216-851-11	METAL CHIP	330K	5%	1/16W
R340	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R341	1-216-821-11	METAL CHIP	1K	5%	1/16W
R342	1-216-811-11	METAL CHIP	150	5%	1/16W
R344	1-216-803-11	METAL CHIP	33	5%	1/16W

Ref. No.	Part No.	Description			Remark
R351	1-216-809-11	METAL CHIP	100	5%	1/16W
R352	1-216-797-11	METAL CHIP	10	5%	1/16W
R353	1-216-840-11	METAL CHIP	39K	5%	1/16W
R354	1-216-836-11	METAL CHIP	18K	5%	1/16W
R359	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R361	1-216-839-11	METAL CHIP	33K	5%	1/16W
R397	1-216-821-11	METAL CHIP	1K	5%	1/16W
R398	1-216-821-11	METAL CHIP	1K	5%	1/16W
R399	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RT301	1-223-258-11	RES, ADJ, CERMET 4.7K			
**********					
	A-3672-934-A	HAND MAIN BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C601	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C602	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C603	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C604	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C605	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C606	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C607	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C608	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C609	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C611	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C612	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C613	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C614	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C616	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C618	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C620	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C621	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C622	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C623	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C624	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C625	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C626	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C627	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C628	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C629	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C630	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C631	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C632	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C633	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C634	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C635	1-117-370-11	CERAMIC CHIP	10uF		10V
C636	1-104-700-11	CERAMIC CHIP	0.027uF	10%	16V
C637	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C638	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C639	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C640	1-126-163-11	ELECT	4.7uF	20%	50V
C641	1-104-509-11	CERAMIC CHIP	0.018uF	10%	16V
C642	1-104-396-11	ELECT	10uF	20%	16V
C643	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C644	1-162-962-11	CERAMIC CHIP	470PF	10%	50V

Ref. No.	Part No.	Description			Remark
C645	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C647	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C648	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C649	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C650	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C651	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C652	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C653	1-127-573-11	CERAMIC CHIP	1uF	10%	16V
C654	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C656	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C657	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C658	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C659	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C660	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C661	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C662	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C663	1-104-851-11	TANTALUM CHIP	10uF	20%	10V
C665	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C667	1-115-412-11	CERAMIC CHIP	680PF	5%	25V
C668	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C669	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
		< TRIMMER >			
CT601	1-141-373-11	CAP, TRIMMER 10PF			
		< DIODE >			
D601	8-719-976-19	DIODE RLS-4148			
D602	8-719-976-19	DIODE RLS-4148			
D603	8-719-976-19	DIODE RLS-4148			
D604	8-719-046-60	DIODE HZK6C			
D605	8-719-976-19	DIODE RLS-4148			
D606	8-719-017-42	DIODE HSM88WA			
D607	8-719-053-09	LED SML-310VTT86 (TALK/BATT LOW)			
D608	8-719-072-86	DIODE NNCD6.2MF-T1B			
D609	8-719-063-83	LED SML-510MWT86 (KEY BACK LIGHT)			(A947)
D610	8-719-063-83	LED SML-510MWT86 (KEY BACK LIGHT)			(A947)
D611	8-719-063-83	LED SML-510MWT86 (KEY BACK LIGHT)			(A947)
D612	8-719-063-83	LED SML-510MWT86 (KEY BACK LIGHT)			(A947)
D613	8-719-976-19	DIODE RLS-4148			
D614	8-719-046-60	DIODE HZK6C			
		< CERAMIC FILTER >			
FT601	1-760-143-42	FILTER, CERAMIC			
FT602	1-527-569-00	FILTER, CERAMIC			
		< IC >			
IC601	8-759-375-39	IC MC3361CD			
IC602	8-759-089-92	IC IR3N74AN			
IC603	8-759-666-28	IC MB89174LPF-G-289-BND			
IC604	8-759-641-10	IC TK11130SCL			
IC605	8-759-641-07	IC XC612N3328MR			

HAND MAIN

Ref. No.	Part No.	Description			Remark
		< JACK >			
J602	1-573-753-11	JACK			
		< RESISTOR >			
JC672	1-216-864-11	METAL CHIP	0	5%	1/16W
JC673	1-216-295-00	SHORT	0		
JC691	1-216-864-11	METAL CHIP	0	5%	1/16W
JC692	1-216-864-11	METAL CHIP	0	5%	1/16W
JC694	1-216-864-11	METAL CHIP	0	5%	1/16W
JC695	1-216-864-11	METAL CHIP	0	5%	1/16W
JC696	1-216-864-11	METAL CHIP	0	5%	1/16W
JC697	1-216-864-11	METAL CHIP	0	5%	1/16W
		< COIL >			
L601	1-412-058-11	INDUCTOR CHIP	10uH		
L602	1-419-289-11	COIL, OSC			
L603	1-403-651-21	INDUCTOR	2.2nH		
		< MICROPHONE >			
MC601	1-542-118-41	MICROPHONE, ELECTRET CONDENSER			
		< TRANSISTOR >			
Q601	8-729-200-87	TRANSISTOR	2SC2714-Y		
Q602	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q603	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q604	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q607	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q608	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q609	8-729-216-22	TRANSISTOR	2SA1162-G		
Q610	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q611	8-729-216-22	TRANSISTOR	2SA1162-G		
Q612	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q613	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q615	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
Q616	8-729-216-22	TRANSISTOR	2SA1162-G (A947)		
		< RESISTOR >			
R601	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R602	1-216-849-11	METAL CHIP	220K	5%	1/16W
R603	1-216-815-11	METAL CHIP	330	5%	1/16W
R604	1-216-817-11	METAL CHIP	470	5%	1/16W
R605	1-216-836-11	METAL CHIP	18K	5%	1/16W
R606	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R607	1-216-853-11	METAL CHIP	470K	5%	1/16W
R608	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R609	1-216-833-11	RES-CHIP	10K	5%	1/16W
R610	1-216-853-11	METAL CHIP	470K	5%	1/16W
R611	1-216-813-11	METAL CHIP	220	5%	1/16W
R612	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R613	1-216-845-11	METAL CHIP	100K	5%	1/16W
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W
R616	1-216-845-11	METAL CHIP	100K	5%	1/16W
R617	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R618	1-216-845-11	METAL CHIP	100K	5%	1/16W
R619	1-216-845-11	METAL CHIP	100K	5%	1/16W
R620	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R621	1-216-815-11	METAL CHIP	330	5%	1/16W

Ref. No.	Part No.	Description			Remark
R622	1-216-821-11	METAL CHIP	1K	5%	1/16W
R624	1-216-809-11	METAL CHIP	100	5%	1/16W
R625	1-216-809-11	METAL CHIP	100	5%	1/16W
R626	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R627	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R628	1-216-833-11	RES-CHIP	10K	5%	1/16W
R629	1-216-821-11	METAL CHIP	1K	5%	1/16W
R630	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R631	1-216-821-11	METAL CHIP	1K	5%	1/16W
R632	1-216-821-11	METAL CHIP	1K	5%	1/16W
R633	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R634	1-216-821-11	METAL CHIP	1K	5%	1/16W
R639	1-216-835-11	METAL CHIP	15K	5%	1/16W
R640	1-216-821-11	METAL CHIP	1K	5%	1/16W
R641	1-216-835-11	METAL CHIP	15K	5%	1/16W
R642	1-216-816-11	METAL CHIP	390	5%	1/16W
R643	1-216-853-11	METAL CHIP	470K	5%	1/16W
R644	1-216-801-11	METAL CHIP	22	5%	1/16W
R645	1-216-835-11	METAL CHIP	15K	5%	1/16W
R646	1-216-835-11	METAL CHIP	15K	5%	1/16W
R647	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R649	1-216-845-11	METAL CHIP	100K	5%	1/16W
R650	1-216-848-11	METAL CHIP	180K	5%	1/16W
R651	1-216-844-11	METAL CHIP	82K	5%	1/16W
R652	1-216-845-11	METAL CHIP	100K	5%	1/16W
R653	1-216-845-11	METAL CHIP	100K	5%	1/16W
R654	1-216-838-11	METAL CHIP	27K	5%	1/16W
R655	1-216-821-11	METAL CHIP	1K	5%	1/16W
R656	1-216-821-11	METAL CHIP	1K	5%	1/16W
R657	1-216-841-11	METAL CHIP	47K	5%	1/16W
R658	1-216-833-11	RES-CHIP	10K	5%	1/16W
R659	1-216-845-11	METAL CHIP	100K	5%	1/16W
R660	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R661	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R662	1-216-813-11	METAL CHIP	220	5%	1/16W
R663	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R664	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R665	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R666	1-216-833-11	RES-CHIP	10K	5%	1/16W
R667	1-216-833-11	RES-CHIP	10K	5%	1/16W
R668	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R669	1-216-801-11	METAL CHIP	22	5%	1/16W
R670	1-216-821-11	METAL CHIP	1K	5%	1/16W
R671	1-216-821-11	METAL CHIP	1K	5%	1/16W
R674	1-216-836-11	METAL CHIP	18K	5%	1/16W
R675	1-216-840-11	METAL CHIP	39K	5%	1/16W
R677	1-216-841-11	METAL CHIP	47K	5%	1/16W
R678	1-216-815-11	METAL CHIP	330	5%	1/16W
R681	1-216-821-11	METAL CHIP	1K	5%	1/16W
R682	1-216-854-11	METAL CHIP	560K	5%	1/16W
R683	1-216-845-11	METAL CHIP	100K	5%	1/16W
R684	1-216-847-11	METAL CHIP	150K	5%	1/16W
R685	1-216-178-00	RES-CHIP	150	5%	1/8W (A947)
R686	1-216-178-00	RES-CHIP	150	5%	1/8W (A947)
R687	1-216-178-00	RES-CHIP	150	5%	1/8W (A947)

Ref. No.	Part No.	Description			Remark
R688	1-216-178-00	RES-CHIP	150	5%	1/8W (A947)
R689	1-216-821-11	METAL CHIP	1K	5%	1/16W (A947)
R690	1-216-845-11	METAL CHIP	100K	5%	1/16W (A947)
R693	1-216-835-11	METAL CHIP	15K	5%	1/16W
		< VARIABLE RESISTOR >			
RT601	1-223-279-11	RES, ADJ, CERMET 220K			
RT602	1-223-278-11	RES, ADJ, CERMET 100K			
RT603	1-223-276-11	RES, ADJ, CERMET 22K			
		< SWITCH >			
S601	1-771-811-11	SWITCH, SLIDE (VOL)			
		< VIBRATOR >			
X601	1-781-724-11	VIBRATOR, CRYSTAL (10.1MHz)			
X602	1-527-396-31	VIBRATOR, CRYSTAL (3.579545MHz)			
		< BUZZER >			
Y601	1-544-603-11	BUZZER			
**********					
	A-3672-932-A	HAND RF BOARD, COMPLETE **********			
	7-621-771-06	SCREW +B 2X5			
		< CAPACITOR >			
C501	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C502	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C503	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C504	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C505	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C506	1-162-904-11	CERAMIC CHIP	0.5PF	0.25PF	50V
C507	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C508	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C509	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C510	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C511	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C512	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C514	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C519	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C520	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C521	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C523	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C524	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C525	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C526	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C527	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C533	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C534	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C535	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C536	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C537	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C538	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C539	1-135-072-21	TANTALUM CHIP	0.22uF	10%	35V
C540	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C541	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C542	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C543	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C544	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C545	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C546	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C547	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C548	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C549	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C550	1-164-813-11	CERAMIC CHIP	15PF	2%	50V
C551	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C553	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C557	1-135-238-21	TANTALUM CHIP	6.8uF	20%	10V
C558	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C560	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C562	1-162-933-11	CERAMIC CHIP	2.5PF	0.25PF	50V
C563	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C564	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C565	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C566	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C567	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C568	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C569	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C570	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C571	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C572	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C573	1-162-911-11	CERAMIC CHIP	6PF	0.5PF	50V
C574	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C575	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C576	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C578	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C579	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C580	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C581	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C582	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C583	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C586	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C590	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C597	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C598	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< DIODE >			
D502	8-719-076-89	DIODE 1SV270 (TPH3)			
D503	8-719-076-90	DIODE 1SV314			
		< FILTER >			
FT501	(Not supplied)				
		< IC >			
IC502	8-759-641-06	IC M64884FP-C60J			
		< RESISTOR >			
JC516	1-216-864-11	METAL CHIP	0	5%	1/16W
JC519	1-216-864-11	METAL CHIP	0	5%	1/16W
JC548	1-216-864-11	METAL CHIP	0	5%	1/16W

HAND RF

Ref. No.	Part No.	Description			Remark
		< COIL >			
L501	1-403-663-41	INDUCTOR	22nH		
L502	1-403-657-11	INDUCTOR	6.8nH		
L503	1-403-661-11	INDUCTOR	15nH		
L504	1-412-987-31	INDUCTOR	4.7uH		
L506	1-403-660-11	INDUCTOR	12nH		
L507	1-403-657-11	INDUCTOR	6.8nH		
L509	1-403-665-11	INDUCTOR	33nH		
		< TRANSISTOR >			
Q501	8-729-050-34	TRANSISTOR	2SC4095-R47T1		
Q502	8-729-216-22	TRANSISTOR	2SA1162-G		
Q506	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
Q507	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
Q512	8-729-050-35	TRANSISTOR	2SC5065-Y (TE85R)		
		< RESISTOR >			
R502	1-216-841-11	METAL CHIP	47K	5%	1/16W
R503	1-216-795-11	RES-CHIP	6.8	5%	1/16W
R504	1-216-813-11	METAL CHIP	220	5%	1/16W
R505	1-216-833-11	RES-CHIP	10K	5%	1/16W
R506	1-216-821-11	METAL CHIP	1K	5%	1/16W
R507	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R509	1-216-833-11	RES-CHIP	10K	5%	1/16W
R517	1-216-816-11	METAL CHIP	390	5%	1/16W
R520	1-216-845-11	METAL CHIP	100K	5%	1/16W
R521	1-216-833-11	RES-CHIP	10K	5%	1/16W
R522	1-216-809-11	METAL CHIP	100	5%	1/16W
R526	1-216-833-11	RES-CHIP	10K	5%	1/16W
R527	1-216-821-11	METAL CHIP	1K	5%	1/16W
R528	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R529	1-216-816-11	METAL CHIP	390	5%	1/16W
R530	1-216-797-11	METAL CHIP	10	5%	1/16W
R531	1-216-802-11	RES-CHIP	27	5%	1/16W
R532	1-216-821-11	METAL CHIP	1K	5%	1/16W
R533	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R539	1-216-851-11	METAL CHIP	330K	5%	1/16W
R540	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R541	1-216-821-11	METAL CHIP	1K	5%	1/16W
R542	1-216-811-11	METAL CHIP	150	5%	1/16W
R544	1-216-803-11	METAL CHIP	33	5%	1/16W
R551	1-216-809-11	METAL CHIP	100	5%	1/16W
R552	1-216-797-11	METAL CHIP	10	5%	1/16W
R553	1-216-840-11	METAL CHIP	39K	5%	1/16W
R554	1-216-836-11	METAL CHIP	18K	5%	1/16W
R559	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R561	1-216-839-11	METAL CHIP	33K	5%	1/16W
R597	1-216-821-11	METAL CHIP	1K	5%	1/16W
R598	1-216-821-11	METAL CHIP	1K	5%	1/16W
R599	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RT501	1-238-663-11	RES, ADJ, CARBON 4.7K			

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
2	1-771-870-11	SWITCH, RUBBER KEY (HAND 12 KEY) (A946)	
2	1-771-870-21	SWITCH, RUBBER KEY (HAND 12 KEY) (A947)	
53	1-771-869-11	SWITCH, RUBBER KEY (BASE 12 KEY)	
71	1-574-161-11	WIRE, FLAT TYPE (22 CORE)	
AT701	1-754-093-11	ANTENNA	
SP701	1-505-802-11	SPEAKER (5.7cm)	
SP801	1-529-541-11	SPEAKER (2.8cm)	

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		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-418-806-11	ADAPTOR, AC (AC-T129)	
	1-528-489-12	BATTERY, NI-CD (BP-T18)	
	1-696-453-21	CORD (WITH MODULAR PLUG) (LINE)	(215cm)
	1-696-454-11	CORD (WITH MODULAR PLUG) (LINE)	(15cm)
	3-010-356-11	LABEL (MEMORY)	
	3-043-622-11	CARD, REMOTE CONTROL	(ENGLISH, SPANISH) (A946)
	3-043-622-21	CARD, REMOTE CONTROL	(ENGLISH, FRENCH) (A947)
	3-043-640-11	MANUAL, INSTRUCTION (ENGLISH, SPANISH)	(A946)
	3-043-640-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH)	(A947)
	3-043-641-11	CARD, QUICK START	(ENGLISH, SPANISH) (A946)
	3-043-641-21	CARD, QUICK START (ENGLISH, FRENCH)	(A947)
	X-3378-524-1	ADAPTOR ASSY, WALL HOOK	

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HARDWARE LIST
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#1	7-623-207-22	SW 2.6, TYPE 2
#2	7-685-533-14	SCREW +BTP 2.6X6 TYPE2 N-S
#3	7-685-534-14	SCREW +BTP 2.6X8 TYPE2 N-S
#4	7-685-536-14	SCREW +BTP 2.6X12 TYPE2 N-S
#5	7-621-771-06	SCREW +B 2X5

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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